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Lessons and Strategies for Community Forestry Capacity Building

The Four Corners SUSTAINABLE FORESTS Partnership

1999 – 2004

By Sam Burns and Tim Richard

PREPARED BY THE
Office of Community Services
at Fort Lewis College
DURANGO, COLORADO

FOR THE
USDA Forest Service
Rocky Mountain Research Station
FLAGSTAFF, ARIZONA

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Prepared by the Office of Community Services at Fort Lewis College, Durango, Colorado
for the USDA Forest Service, Rocky Mountain Research Station, Flagstaff, Arizona

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In Memoriam

David C. Schen
August 1948 - July 2004

Thoughts and Reflections from Friends and Colleagues

"Dave was always the calm voice of reason, no matter how far a field the discussion carried."

"He was a very caring person, . . . I loved being a colleague of Dave's. He was very serious about his work, but knew how to have fun with it, too."

"Dave was a voice of reason..., thinking, not necessarily talking. When he talked, it was something that needed to be said."

"Dave was one of the first state forestry folks to seemingly pay any attention to the concerns of southern Utah's "community forestry" interests. He was at some of the earliest meetings concerning forestry and community issues in southern Utah. It was the fact that Dave continued to be at these gatherings over the past decade that is telling. While lots of folks have come and gone, dabbled in it but moved on due to the seemingly overwhelming challenges, Dave continued to be there representing the state. He provided consistent access to the state's resources as well as a sympathetic and interested ear."

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Acknowledgements

We have had the privilege of working with the Four Corners Sustainable Forests Partnership (FCSFP) over the past five years, beginning with the very first initiating meeting in July 1999, known as the Taos Roundtable. Since then, beginning with a basic vision about how community development could be linked to forestry, the Partnership has grown into tangible implementation programs and dozens of community- and business-based demonstration projects in community forestry.

In our efforts to identify and describe the "lessons learned" from the FCSFP, we have relied on many supportive resources and individuals. We have listed some of these resources and persons in *Appendix A* of this report, including staff of the U.S. Forest Service, the state forestry organizations of Arizona, Colorado, New Mexico, and Arizona, the Bureau of Indian Affairs and several tribal wood industry programs, the members of the steering committee, research scientists at universities and research stations, business leaders and owners, elected officials, and a wide range of non-profit and community service organizations. Without their assistance this study would not have been feasible. Indeed, it should be emphasized that without these very same persons and organizations, the FCSFP could not have been developed, nor would it have grown in the meaningful ways that it has. Through their efforts we know considerably more about the challenges of this rather new approach to resource stewardship, which we will refer to as community forestry. Through their work we will be able to see and better understand the types of resources being dedicated to restoration forestry, wildfire mitigation, and infrastructure development. We will be able to see some of the best practices that are emerging from the many efforts to improve community and economic capacities to address ecological improvements.

To all the FCSFP members, committees, and related organizations and staff, we express our gratitude for being given the opportunity to learn with you. A special appreciation is given to Carl Edminster, a member of the FCSFP Steering Committee, and Program Director of the USFS Rocky Mountains Research Station in Flagstaff, Arizona. Through Carl's leadership and resourcefulness, the financial support was made available to us in order to continue an examination of the implementation processes of the Four Corners Sustainable Forests Partnership. Finally, we appreciate the opportunity and administrative support provided by the Office of Community Services at Fort Lewis College to engage in this endeavor.

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Preface

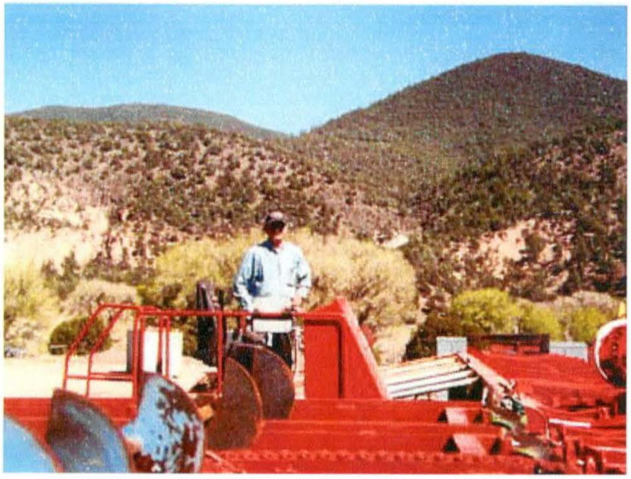
The focus of this report is to synthesize the "lessons learned" from the five-year demonstration project, the Four Corners Sustainable Forests Partnership (FCSFP), which operated from 1999-2004 through special funding through the US Forest Service's Economic Assistance Program and the National Fire Plan. Our intent is to provide a comprehensive inventory of the key ingredients of community based forest restoration, linking them through two broad themes of resource support for capacity building, and social, economic, and ecological implementation processes.

We want to portray how the key ingredients are integrated, and are mutually supportive of each other. We will do this through a combination of describing the essential resources and practices of community forestry, and many actual examples of work among the partners of the FCSFP. Our intention is to create a picture of a work in progress, with its main ideas and challenges, and a story told through the efforts and dedication of many hundreds of active people, from community leaders, business owners, scientists, public land managers, and a wide array of technical and supportive persons.

While clearly this new work of community forestry is an on-going process, a story as yet not fully told, it is timely to pause and reflect. While we must continue to speak in terms of concepts and dreams and supportive policies to pursue, we can also begin to speak in terms of work, practice, and on-the-ground progress. This part of the story needs to be told in a clear manner, in a way that promotes further study and analysis, and peer-to-peer learning. Community forestry is, as Baker and Kusel report (2003), "a social movement," like other evolutionary and healing processes in our history. As it matures in actual places, in communities and forests, it increasingly becomes something we can get our arms around, something tangible, with real achievements and immediate challenges.

Community forestry, while filled with ideas, notions and a sense of what ought to be, is also now a set of real experiences. It is a complex and interrelated array of resources, policies, practices, and most of all actual players whose large and small contributions sustain the immediate and long-term outcomes of a new and hope-filled land stewardship ethic. The more familiar we can become with the day-to-day situations, actions, successes and challenges of this work, the better we will be able to continue to support and strengthen its practice and achievements.

Background and Context:
The Foundations of Community Forestry and the Four Corners Sustainable Forests Partnership



Community Stories

ON MAY 3, 2004 AT ABOUT 4:00 P.M., Gary Harris stepped up to the control panel and started the engine on a new log debarker at the old Stone Mill near a village known as Lower Frisco, south of Reserve, New Mexico. The old mill had been shut down for about 14 years. Just beyond the debarker sat a new band saw, ready to be linked up.

For more than 22 months the leadership of the Catron County Citizens Group (CCCG), with support from county government and many grant resources, has been working to reestablish a milling operation at the old mill near Reserve. Bob Moore, a forester and executive director of the CCCG, anticipates being able to process about three-five million board/feet of wood products per year—a far cry from the heyday of lumbering in this small community set in the midst of the Gila National Forest.

Nevertheless, this is the fulfillment of a dream to reestablish a sustainable wood products economy, tailored to fit the forest-health needs of that region. The reestablishment of a moderate-size mill is the latest of many steps taken by community leaders to move beyond the social and economic chaos of the 1990's, fueled by a struggle between Catron County government and the U.S. Forest Service (Burns, 2003).

****

WALKING INTO THE LOG YARD of Indigenous Community Enterprises (ICE) in the town of Cameron, just 50 miles north of Flagstaff, Arizona (KenCairn, 2002), an energetic Navajo man, T.J. Nelson, approaches with a smile and a "What can I do for you?"

For the next hour he explains how logs are prepared for the milling operation, which produces a high quality log home kit. Among the designs offered by ICE are traditional octagonal, one room hogans, an expanded two bedroom version of the hogan called the "Beedezah", a Longhouse Chieftain model, and typical mountain cabins. As he leafs through a thick three-ring binder, T.J. explains that they have just completed several months of work on their marketing materials and that they have just been mailed to all of the community governments, or Chapter Houses, of the Navajo Nation.

As he walks amidst the milling machinery, he picks up a contoured piece of wood, shows how the log is molded to create a "universal fit" where they join each other. He comments that he is leaving later that week to give a presentation to a Navajo community in eastern Arizona. With high optimism, he talks about future jobs for residents of the local communities, the desire to begin building furniture, and about providing firewood for the elderly who live nearby.

T.J. Nelson, Indigenous Community Enterprises, Cameron, Arizona

Overview of Community Forestry

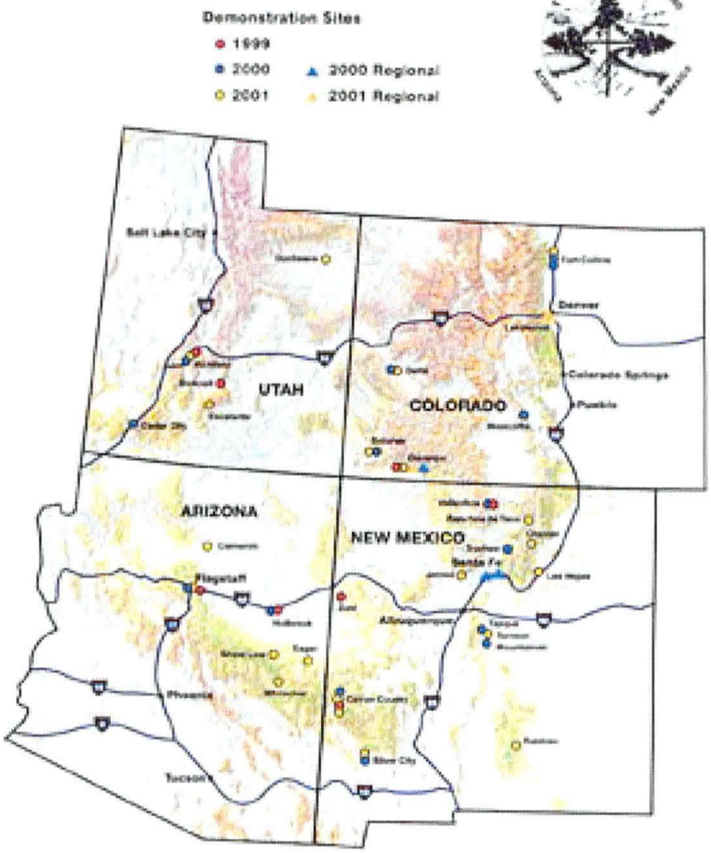
> "There are three critical issues: Building trust in the partnership and community based forestry, strengthening the relationship between the people and the agency, and gaining community support."
>
> *(Brian Cottam, past executive director, Greater Flagstaff Forest Partnership, FCSFP Annual Meeting, 2001)*

Throughout the Four Corners Region (an area comprising much of the states of Arizona, Colorado, New Mexico and Utah) stories such as these increasingly occur. These are the community stories that form the larger story of economic revival and ecological renewal through restoration forestry. Together they make up the early chapters or stages of a movement to rebuild a community-based forest products economy linked to improved forest ecology. This movement is commonly called community forestry.

In each individual story a bit of the larger story of community forestry is being told. In some places lumber mills are being revitalized to cut smaller diameter wood coming from forest thinning or fuel reduction projects. Innovative wood products, such as laminated beams and animal bedding are being designed and manufactured. Electricity is being made from wood waste and stove pellets are being made from chips produced by a mechanical harvester. An array of forest thinning and restoration prescriptions are being demonstrated and monitored to discover the best ecological and silvicultural methods for improving the health of the woods. This is a story of change and challenge.

Clearly, in many, many respects, individual community efforts are just beginning to build some stability within the broader community forestry movement. Many of the activities are just a few years old, and therefore should be understood as the early steps in building something new. Occasionally they are building upon the few surviving remnants of the era of industrial forestry, which began to come apart in the mid 1970's. But often they begin with new technology, and certainly a major dose of entrepreneurship and courage. This work within small- and medium-size towns of the Four Corners region make for an intriguing, interwoven story, a complex tapestry of discovery, emergence, initiative, and hope.

We hope this report conveys what people involved with the Four Corners Sustainable Forests Partnership say about community forestry issues, and also how they understand community and forest restoration efforts. Their stories point towards the future of community forestry. They are intimately familiar with specific aspects of community and forest restoration. In their minds they know what needs to be done to move things along. They are concerned, caring people who believe they are doing something good and are trying to integrate their business entrepreneurship into caring for the land. These are reasons why a careful examination of their work over the past five years is very worthwhile.



Defining Community Forestry

…Recently, community forestry has been used to describe alliances formed among traditional adversaries, such as environmental groups and loggers, to address both conflicts over national forest management and local social and economic problems.

As used here, community forestry implies collaborative forest management by a broad cross-section of local residents and land managers, the basic premise being that people living in and near a forest should be involved in its management because they are most heavily affected by and most likely to affect forest conditions. Many southwestern communities are now organizing to address wildfire threats, and community forestry efforts in the region are almost exclusively focused on fuel reduction or ecological restoration.

(Moote 2003, in Friederici, ed., p335)

The Four Corners Sustainable Forests Partnership

While similar elements of community forestry have been occurring throughout the United States for the past 10 years or so (through such organizations as the Flathead Forest Partnership, Sustainable Northwest, the Hayfork Forestry Center, Applegate Partnership, Quincy Library Group, and others), this story will be told from the perspective of the Four Corners Sustainable Forests Partnership, a regional effort initiated in 1997. Some of the initiators of the FCSFP had begun work in their local communities as early as 1993, seeing a need to construct an economically and ecologically sustainable forestry process. They felt a need to share and learn from each other and build a critical mass of community, economic, and ecological momentum.

What emerged was a four-state collaboration of state forestry organizations, national forests, county and tribal governments, small- and medium-size businesses, and an array of non-profit corporations to build capacity for engaging the contemporary challenges of forest health. By 1999, when substantial federal funding was made available, this network of people and local community partnerships became known as the Four Corners Sustainable Forests Partnership.

Because of its geographic extent (see map) and the wide variety of community, economic and ecological projects, the Four Corners Sustainable Forests Partnership (FCSFP) provides an extraordinary and fertile ground for telling the story of community forestry; its progress, opportunities, and challenges. This will be a story of many endeavors undertaken within local communities and adjacent forests by an extraordinary variety of persons, businesses, organizations, and groups.

As a whole, the story will offer a roadmap of sorts to the broader process and movement of community and restoration forestry. Through an understanding of many of the individual pathways and actions being taken by partners, colleagues, and folks on the ground in the Four Corner's region, a more detailed picture will emerge of the successes and questions being experienced in this relatively new work. It is this aggregate or whole picture that we believe offers the greatest possibility of understanding the complexity and integrative challenges of community-based forestry.

Hands-on Learning

Lesson Learned

Much of the progress or growth within community-based forestry still comes from a hands-on approach, with continually emerging solutions drawn from a broad spectrum of learning.

Lesson Learned

FCSFP members prefer the hands-on approach to learning. Some of the best learning can occur on site, out in the woods, or in someone's mill.

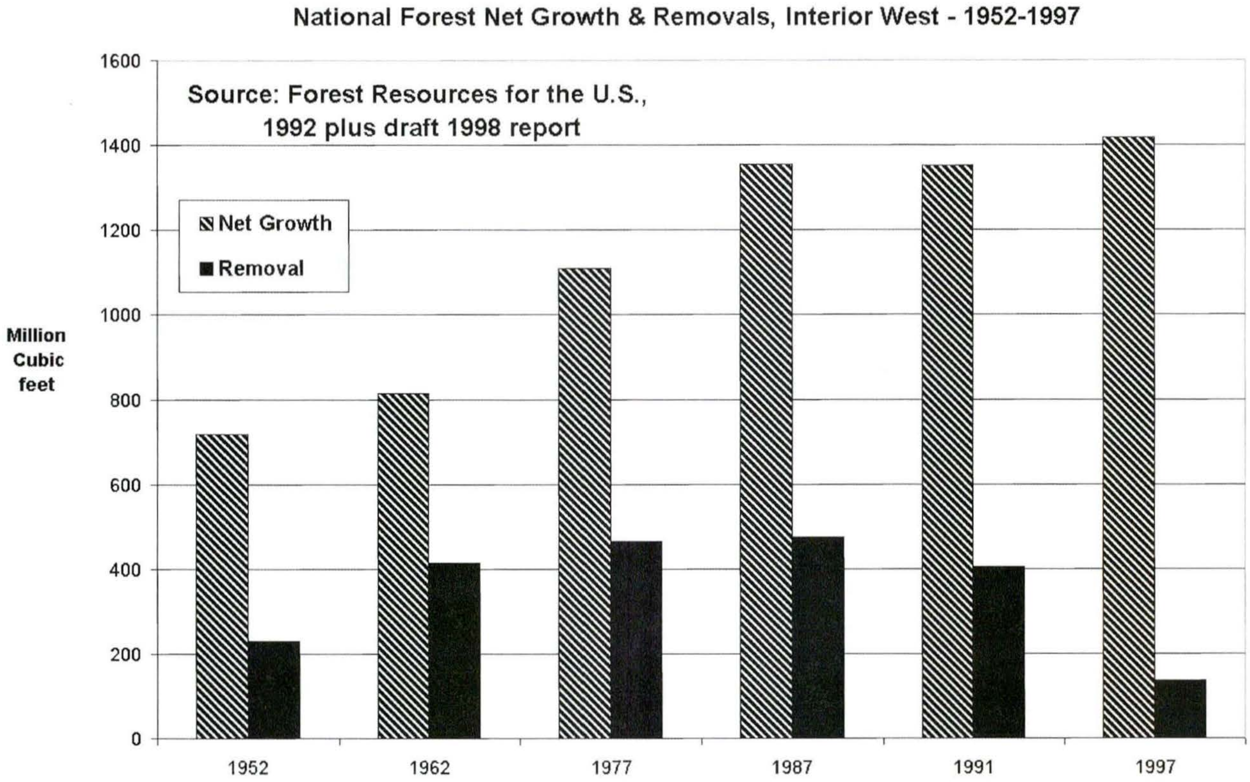
As we present a conceptual synthesis, a model of sorts, for community-based forestry, along the way we will also describe numerous on-going activities. These activities will provide a well-grounded sense of the work of community forestry, some of its successes and directions, and a few suggestions for further exploration and application.

Integrating stories of the actual work will enable us to underscore an important aspect of restoration forestry at this stage; that is, what might be termed "hands-on learning." Indeed, over the past 10 years there has not been a set of firm, or well-tested, practices for how communities, businesses, interest groups, and land managers could become partners in a land stewardship process. While there have been very worthwhile, basic guides or principles offered (Gray, et al., and Baker and Kusel, among others), much of the progress or growth within community-based forestry still comes from a hands-on approach, with continually emerging solutions drawn from a broad spectrum of learning.

Much of the work we will explore is bound within the historical, cultural and ecological contexts of the projects themselves, which is not to say that there are no universal themes; there are. Nevertheless, even today, much of the challenge of community-restoration forestry is to examine the current and historical situation of a particular social place and a specific forest landscape, and then generate well-grounded action alternatives.

We find people continually asking: What is the condition of the forest ecosystem? Is it healthy or overgrown with "dog hair "thickets? What values does the community hold for the surrounding forestlands? Has the community economy changed partially, or completely, from utilizing natural resources to one based in "amenity growth," where the forestlands are primarily a scenic backdrop or a place for outdoor recreation? Are there skills and capacities for forest stewardship still remaining in the area after a sawmill has been closed for eight to 10 years?

Questions such as these become the means whereby land managers, county commissioners, out of work woods workers, neighbors in fire prone urban-wildland zones, and many other interests, have begun to establish a conversation about



(*Source:* Johnson, Marlin. Combining Social and Ecological Needs on Forest Lands in the United States: A Global Perspective, p6.)

Major Mill Closure Summary, Arizona and New Mexico, August 2003

Mill	**Location**	**Capacity**	**Closure Date**
Stone Forest Ind.	Flagstaff	75	h1992
Stone Forest Ind.	Reserve	20	1992
Duke City Lumber	Cuba	25	1992
Kaibab Forest Ind.	Payson	12	1993
Precision Pine	Williams	10	1993
Bates Lumber	Albuquerque	22	1993
Kaibab Forest Ind.	Fredonia	65	1994
Precision Pine	Eager	8	1996
Precision Pine	Winslow	22	1998
Stone Forest Ind.	Eager	65	1998
Vallecitos*	Vallecitos	5	1998
Stone Forest Ind.	Snowflake	640 M Tons	1999
Tri-Con Timber	Cimarron	9	2000
NE-I-GHI Lumber	Milan	5	2001
Rio Grande F. Pdcts	Espanola	25	2003

Closed Mills Total Capacity: 368 MMBF sawtimber plus pulp

* This may not yet be a permanent closure.

These data illustrate the loss of capacity within the wood products industry within New Mexico and Arizona over the past decade to process traditional wood products. When it comes to the wood processing and utilization needs related to restoration forestry, questions remain: What sort of capacity needs to be redeveloped? What form should it take in terms of scale and products? What sort of mix of large and small processing facilities will be needed? What level of restoration is sustainable and can thus be integrated with a predictable level of supply?

a new form of partnership for land stewardship. A dialogue is hereby being formed that encourages greater responsibility of community members, businesses and leaders for the conservation and well-being of surrounding forests. This is a distinct contrast to the social and cultural conflicts that have dominated the past 20 years, which in some ways still remain a challenge.

Grappling with these and other questions has created a laboratory for cooperative learning that continually informs the process of community forestry at the individual community and regional levels, and as it evolves into a mature social movement. Within this laboratory, in towns, counties, tribal lands and states, in old saw mills and on forest restoration sites throughout the West, a new and healthier way of doing business in the woods is being created daily. But let there be no doubt. The social, economic, and ecological challenges of renewing the forests of the West remain large. Progress in reestablishing healthy forests will only be realized if a concerted and integrated effort is made by many communities, businesses, land managers, and policy makers over the next several decades.

The Rise of Community Forestry

Why Community Forestry?
There has been a dramatic growth in community forestry throughout the United States during the past 10-12 years. Why the growth? In many respects, momentum towards a different approach has come from the degree of failure of the previous systems. Various descriptions have been applied to the recent era of forest management: stalemate, gridlock, a cultural war, environmental conflict, mismanagement, and unhealthy forests, among others. Whatever it is called, it has resulted in a widespread climate where active forest management has been disallowed or discouraged.

After at least two decades of economic decline, political rhetoric, social turmoil in the field of natural resource management and conservation, some people looked around to see unhealthy, wildfire prone forests, unemployed or displaced wood workers, and an ultimate decline in social and economic capacity to undertake ecological analysis and carry out appropriate forest management. By the early 1990's, decline in the economic and land management resources of wood products industries and public land agencies had deteriorated to the point of inertia.

In a new study of community forestry, Mark Baker and Jonathan Kusel (Baker and Kusel, 2003) describe its development as a social movement, and relate it to associated movements such as sustainable communities, civic environmentalism, and to central values of self reliance and local forms of democracy. While their focus is to analyze community forestry in the context of social and political theories of community change and local control and management of public and private forest resources, they identify a set of descriptive features, which they call "common unifying themes" (pp 65-69):

...the attempt by people to reorder relations among themselves and between themselves and the forest on which they depend in a manner that simultaneously promotes or improves the forest conditions and enhances community well being...

...Community forestry involves reordering social relations in a manner that promotes collaborative forms of interaction. Community forestry collaboration differs from more general forms of collaboration because if its focus on place and on people who are involved with that place....

... Creating jobs, supporting small businesses, and improving the viability of forest landowners have been the foci of many community forestry practitioners. Other examples of investment include developing markets for the byproducts of forest restoration and value-added processing..., reorienting timber harvesting from exclusively a commodity extraction to one in which ecosystem restoration is and important land management objective...

...community forestry entails a variety of institutional changes at multiple levels. Within public land management agencies community forestry on public lands requires new institutional relationships. This includes changes in the budget process that counter historical links between budget allocations and commodity outputs; ...changes in planning processes to make them more participatory and democratic....

Disruptive Southwest Trends

When the FCSFP began, an array of negative trends was identified as strongly impacting the well being of the region:

- Unhealthy Forests: Hundreds of thousands of acres of unhealthy, overstocked forests, resulted from myriad conditions, including exclusion of natural fire for a century. This vast forest ecosystem extends over much of what is known as the Colorado Plateau and the northern highlands of the Rio Grande Valley.
- Polarization: Communities and public interest groups were extremely polarized over which resource management solutions were appropriate for use in these forests. These disputes were being negotiated in courts, rather than in local community contexts, while these same communities were being socially and economically fragmented.
- Mill Closures: Many timber mills had closed, undermining the already tenuous stability of forest-dependent communities. In most cases the mill closures created unemployment among several hundred workers in highly forest-dependent economies, where no replacement jobs were available. However, a few small- and medium-sized, often family owned, wood-processing businesses were able to survive the severe economic changes.
- Market Disruptions: Markets for forest products became increasingly disrupted, with large gaps in processing and transportation infrastructure, a lack of modern equipment, and with little or no investment in new conservation knowledge, skills, and tools. Surviving small businesses were ill prepared to make needed capital investments and changes in technology, with many of their owner-operators nearing retirement.
- Organization/Legal Gridlock: Public land managers were in a continual state of organizational and legal gridlock, unable to take very basic steps to improve ecosystem conditions. In time, as significant reductions in timber production programs on USFS lands, major reductions in staff occurred, leaving little or no capacity for resource monitoring, evaluation, or conservation in ecosystems that were in an increasing state of decline.
- Social Change/Policy Conflict: Resentment grew between community leaders, forest-product workers, resource managers, and environmental advocates who had grown weary of the inability of traditional, formal systems or institutions to address the restoration needs of stagnant natural landscapes where natural fire had been excluded. By and large, the degree of social change and public policy conflict had created an atmosphere where people were not talking or working together to achieve sustainable ecological improvements.

These trends created a context where the need for systemic change in the social, economic, and ecological approaches to forest improvement became increasingly clear. The specific lack

Lesson Learned

Community forestry involves a myriad of new expectations, uncertain economic outcomes, evolving ecological science, risky investments, and limited public consensus. Negotiating this challenging development process requires significant forms of support, planning, redesign, and reinvestment in terms of organizational commitment, capital, political leadership, and realignment of natural resource management policy.

Lesson Learned

Local people don't easily accept outside help that comes and goes, and tells them what to do, or does it for them. Hands-on means doing it with them, even living with them and working with them to get the job done.

of concerted action that was needed to rebuild significant and sustainable forest stewardship was no longer a viable option. For many community leaders, local business owners, and foresters hamstrung by legal gridlock, an ecological crisis existed (Dahms, Cathy W. and Brian W. Geils (Technical Editors). An Assessment of Forest Ecosystem Health in the Southwest. General Technical Report RM-GTR-295. Flagstaff, AZ: USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Southwestern Region).

Timber harvest levels on National Forest System lands in the Region 3-Southwest Region have been tracked since 1908. Harvest levels gradually increased through the 1950's and, under sustained-yield management, remained relatively flat through the 1980's:

DECADE	**AVERAGE ANNUAL CUT (million board feet)**
1908-1910	40
1911-1920	76
1921-1930	87
1931-1940	98
1941-1950	178
1951-1960	275
1961-1970	396
1971-1980	375
1981-1990	402

There has been a steady decline in the amount of timber cut in the 1990's. The timber cut in 1996 was almost exclusively fuelwood:

YEAR	**ANNUAL CUT (million board feet)**
1991	334
1992	291
1993	190
1994	115
1995	100
1996	46

The net annual growth rate of all size classes of saw timber in the region, currently around 700 million board feet, is substantially greater than historic harvest levels (Johnson 1994).

An Opportunity for Synthesis—A Need for Hope

Community forestry in the western US is about 10 years old, 1994-2004. While this is not a long time in some respects, it is timely to take a look at the progress. The FCSFP (1999-2004), as a regional and multi-faceted organization, offers a meaningful opportunity to develop a comprehensive perspective. As we examine the various community partnerships, their relationships with public land agencies, the breadth of work in economic development, forest ecology, and the mutual learning occurring, there is an extraordinary opportunity to produce a synthesis of community forestry processes, issues and challenges. After 10 years of effort within many regions of the United States, especially the western states where federal public land management is so significant, it is timely that we examine the strategic components of progress in community forestry.

Even as we look at the progress, we are simultaneously aware that many barriers confront community forestry. Many people in the movement—community leaders, partnership members, small wood products operators, and public land managers—work energetically and voice great hope in a new approach to forest stewardship. They hold strong beliefs in an alternative approach that will bring many perspectives and resources together for sustainable forest renewal, based on sound principles of forests management and long-term community health. Expectations for this balanced and sustainable community and ecological approach are very high.

And yet those who work consistently at the center of community forestry are also aware that many difficulties lie ahead, that much depends on a practical alignment of resources, leadership, authorities, and innovative knowledge. They know that a sustainable alignment of these factors has not yet occurred, and that in some respects it seems a ways off in the future, still they work continuously in the hope that it can be achieved. Sustaining a common theme and sense of hope in community based forest stewardship is in itself an on-going need.

The other need is for a pragmatic look at the inner workings of community forestry. What are its day-to-day operational components? What are the nuts and bolts that make it work? Beyond the concepts of a new approach to forestry, such as collaboration and sustainability, there is the real work of creating a business, designing an implementable restoration project, building working relationships with public land managers, developing community understanding and support for restoration ecology, while still making a living. The future success of community forestry is in its practice, and the associated ability to learn from the process. Indeed many factors, such as land management policies and resource conservation theories, could and should become more supportive of a new community stewardship ethic. But authentic success will result primarily from the hard-earned, best practices of many partners who are willing to dedicate themselves to a new way of doing business in the woods, and learning together.

Faces of community forestry in the Four Corners region—Steve Gatewood, Greater Flagstaff Forests Partnership executive director (pointing), Kathryn Mutz, Univ. of Colorado Law Center (background) and field-tour participants.

Building Support for Community Forestry

Creating sustainable community-public land alliances that result in real ecological improvements on the ground, put skilled and knowledgeable forest workers back in the woods, and adapts a new forest products industry towards increased stewardship activities requires a major shift in social and economic strategy. (See further descriptions of change in Burns, 2003, Keynote Address, FCSFP Annual Meeting, Bryce Canyon, Utah.) In other words, if the current ecological restoration needs are going to be adequately addressed over the next several decades, a much different forest stewardship process will need to be established and nurtured. Business as usual can no longer be accepted. A new direction in creating a stewardship orientation to forestry is required, whatever the scale or type of wood processing developed in the future. Its success depends on many interacting relationships, tasks, resources, and expectations that were not a part of the traditional wood harvesting and milling process. To construct this new community-oriented forest stewardship model will require many forms of resource and institutional support and community and economic capacity building.

Historically, forestry has been a relatively straight-forward, three-part commodity development stream, with a resource (trees in the woods), a traditional production process (a sawmill), an end product (lumber), led and implemented by a small number of key players and established roles and responsibilities, (foresters, loggers, sawmill owners). In contrast, at the outset, community forestry involves a myriad of new expectations, uncertain economic outcomes, evolving ecological science, risky investments, and limited public consensus. To negotiate this challenging complexity of development requires significant forms of support, planning, redesign, and reinvestment in terms of organizational commitment, capital, political leadership, and realignment of natural resource management policy. Without a consistent and coordinated effort to form a broad basis of support within local, state, regional and national programs, networks, and institutions, much needed capacity in community-based forestry will not be able to gain a solid foothold. A "consistent and coordinated effort" cannot be achieved with mere annual appropriations and short-term policies, made within limited political contexts and visions. They require the sort of strategic thinking that one must have in approaching any ecological problem and most sustainable community endeavors. Presently, we are seeing "limited victories." The central question is whether these can be accumulated into the necessary momentum to bring about both healthy forests and stable communities.

At a 2003 meeting of active participants in community forestry, held at Hart Prairie near Flagstaff, Arizona, eight key barriers to "collaborative forestry" (another name for community forestry) were identified:

1. Inconsistent and unrealistic expectations of collaboration, and lack of criteria for measuring the effectiveness of collaboration, lead to unfair criticism of collaborative efforts, accusations of failure, and both participant and agency burnout.
2. Government agency policies, procedures and cultures limit their ability to engage in collaborative efforts.
3. NEPA analyses, Endangered Species Act consultations, appeals, and lawsuits can delay projects for years and stop some altogether.
4. Funding for forest restoration projects is inadequate and unreliable.
5. Newer and more flexible contracting authorities are not well understood or consistently used.
6. Collaborative forestry groups commonly lack funding for day-to-day administration, capacity building, project planning and administration, staff time, education, and monitoring.
7. Intensive, local economic development is needed to build industrial capacity for forest restoration.
8. There is a lack of commitment to and lack of resources for monitoring.

This list of eight "barriers" provides one indication of the significant challenges to the broader movement to construct a sustainable support system for new directions in forestry. While they by and large point to the more institutional, regulatory, and administrative areas of support needed, they reflect as well the deeper social, economic, and cultural challenges that lie at the heart of the movement towards community forestry.

The USDA Forest Service and the State Foresters

> "A lot comes down to the chemistry among people . . . people are talking to each other. Without the relationship you can't do much."
>
> *(Abel Camerena, Deputy Regional Forester, R2 USFS, 2002)*

> "The problem with EAP is that it is not a focused approach. FCSFP is not a shotgun approach. It gives focus to forest health and small-diameter utilization."
>
> *(Kim Kostelnik, FCSFP New Mexico State Coordinator)*

During the late 1990's, considerable ambiguity existed among state foresters about hvarious community assistance and development programs that had been funded through State and Private Forestry by the 1990 Farm Bill. Sometimes these programs are globally referred to as EAP (Economic Assistance Programs), even though there are many sub-components with different purposes and outcomes. Although perspectives varied by state and region throughout the U.S., there were concerns that too much of the EAP funding was being ear-marked by Congress, for instance through the Northwest Forest Plan, that projects were being funded that had little to do with forestry even though some of the financial resources were originally intended for recovery within communities that had lost significant timber economies, and that the overall program had little to do with traditional state forestry organization objectives such as "forest stewardship, forest health, and urban forestry and fire" (see "findings" in NASF, 1998, pp10-11).

In the Four Corners region, a discussion among the state foresters, led especially by Toby Martinez in New Mexico, began to focus on how to concentrate EAP resources into a combined rural development and forest restoration initiative. This regional conversation was bolstered by a National Association of State Foresters (NASF) "white paper," (NASF, 1998), which sought to reframe the various EAP funding mechanisms.

First, the white paper, developed by the Economic Action Committee, noted the need for restructuring EAP into a strategy acceptable to more NASF members:

> In a 1998 survey, the NASF Economic Action Committee discovered that many State Foresters had become frustrated by their lack of understanding regarding funding authorities; small and, often, heavily earmarked budgets; and limited State Forestry involvement, many associated with the overall implementation of the Forest Service's Economic Action Program strategy. In addition to the budget limitations, state statutory authority for State Foresters may not be complementary with the state statutory authority for state economic development. In some states, the Forest Service has been working with the state economic development agency, rather than state forestry agencies. The committee undertook the current program review, of which this paper is a part, in an effort to clarify the NASF membership's understanding of the current Economic Action Programs and to propose an improved structure which could better meet the expectations of both the Forest Service and the State Foresters in building a nationwide strategy for the future (NASF, 1998, p2).

Second, the white paper indicated some of the potential outcomes of revamping the EAP:

> As a result of discussions conducted with State Foresters during the NASF survey process, it appears that sufficient concern exists about the efficacy of the current Economic Action Programs to undertake a concerted effort to examine program components. Such an examination will allow for greater input from State Foresters regarding their needs from the state perspective, enhanced communication between Forest Service staff and state forestry staff regarding complementary goals and objectives, a focusing of scarce resources to where they are needed most, an increase in support for the program from NASF members, and the development of a coordinated national strategy for the EAP with the flexibility needed to meet the objectives of different regions of the country. Ultimately, a carefully designed program focused on forestry-related issues can result in more measurable successes, which meet NASF core objectives, as well as Forest Service goals. With full support from NASF and other cooperators around the country, the potential for the program to attract a higher level of funding and truly become a nationwide program will be enhanced (NASF, 1998, p10).

And third, the NASF paper proposed a Forest-Based Economic Assistance Program (FBEA) that outlined a series of major themes, or components, that should be addressed.

Components of an NASF Initiative

The NASF Economic Action Committee proposed the creation of a Forest-Based Economic Assistance Program (FBEA), which is linked to the key program components of EAP, but emphasizes a financially stronger and complementary role through Rural Development and FPC&R. The FBEA program area would be designed to strengthen the components of EAP that to date have not been supported or funded. FBEA efforts would focus on the following needs and/or issues:

1. Community Economic Development—This program component would provide technical assistance and matching funds for locally initiated and planned projects designed to stimulate improvements in the economic or social well being of rural communities through sustainable use and retention of forest resources
2. Technology Transfer—This component would encourage and facilitate the wise, more efficient use of forest resources to enhance economic development and stimulate better forestland stewardship.
3. Marketing—This program component would focus on expanding domestic and international markets for forest products through information assessment, identification of income producing opportunities, actions to achieve market acceptance and development of marketing strategies.
4. Demonstration and Product Development—This component would increase value-added forest product processing; reduce the environmental impact of harvesting and processing forest products; improve utilization of wood wastes and residues; and extend the useful life of forest products.

Although these components were proposed by the Economic Action Committee of the NASF, the total package of components was not fully agreed to by the entire association. Nevertheless, there was agreement to endorse the state foresters in the Four Corners in their pursuit of an EAP congressional earmark for a regional community forestry partnership that would contain essentially the four components described above.

Thus, from the very beginning, the FCSFP has been strongly linked to a new form of leadership and initiative on the part of state foresters. Dissatisfied with some of the existing EAP structures and focus, the four state foresters created a regional coalition to place a stronger emphasis on linking rural economic development to improving forest health. The consequence of this effort was that one million dollars per year for five years (supplemented later by $500,000 dollars of National Fire Plan funding that was put into a revolving loan fund) was allocated for the development and implementation of the Four Corners Sustainable Forests Partnership from 1999 through 2004.

Because the state foresters of Arizona, Colorado, New Mexico, and Utah provided strategic leadership and oversight for the FCSFP, a number of new ideas were being demonstrated and tested by the Partnership, including the following:

- State and Private Forestry (S&PF) has a unique role of working with local communities and economies in cooperation with the land management roles of the National Forest System of the USDA Forest Service;
- Economic Assistance Programs can be incorporated into state and regional capacity building programs that can help in addressing the ecological needs of forests across multiple land management jurisdictions;
- State Foresters can play a variety of leadership, convening, facilitating and community development roles in community forestry.

These ideas were further developed through the implementation of the FCSFP. While some would say that the barriers to community-based forest restoration are being whittled away, stable, long-term viability of local forest stewardship and restoration remain a significant challenge. Debate remains over whether the greatest barriers are economic sustainability, a lack of general public understanding of forest health needs, limited capacities of public land agencies to work in a new community based stewardship environment, or unanswered scientific and ecological questions about appropriate forest restoration methods. It is possibly some of each, and more likely, a complex maze of the interaction among all these hurdles to which we need to attend.

Throughout the process, having their involvement elevated us in the political sense. The State Forester's were our leadership team, so to speak. It made the partnership stronger than if it had just been purely a grassroots, non-profit, community-type thing; and also more credible than if it had just been led by the Forest Service (Carla Harper, OCS Interview, February 17, 2004).

The Roundtable—Taos, New Mexico 1999

Over several days in July of 1999, approximately 300 people gathered at a conference center in Taos, New Mexico. Out in the courtyard and in the meeting rooms, people gathered in groups of 12-20. There were expressions of concern, need, and hope about the forests of the Southwest and the Four Corners region; specifically, about the loss of timber production capacities and skills, and the decline of wood product markets. At times, speakers were optimistic about some beginning efforts in northern New Mexico to build bridges between traditional Hispanic wood users and the national forests, at a time when many of the national forest were closed by court order to commercial wood harvesting, due to Mexican spotted owl habitat issues. There were presentations on new stewardship efforts on a large private ranch, an assessment of potential new wood products that could be made from small-diameter materials, and there were encouraging words from municipal and congressional leaders, and public managers from the Bureau of Land Management (BLM) and the USDA Forest Service (USFS).

But the meeting in Taos, the first regionally sponsored by the FCSFP, was primarily about brainstorming ideas for implementing a program that would link rural development and forest restoration. Folks sat around in small group circles with flipcharts talking about a vision for community forestry, about the role of forest science, the importance of public information about forest conditions, the need for demonstration projects, marketing and utilization, and how natural resource management policy could be improved. Flip chart notes were consolidated and later synthesized in a manner that served as a beginning framework for the Four Corners Sustainable Forests Partnership.

One of the lasting results of the discussion groups was a detailed list of concerns and objectives brought forward into the "Initiative," formalized by the leadership, and developed into program objectives and activities over time. Here are some of the specific recommendations made:

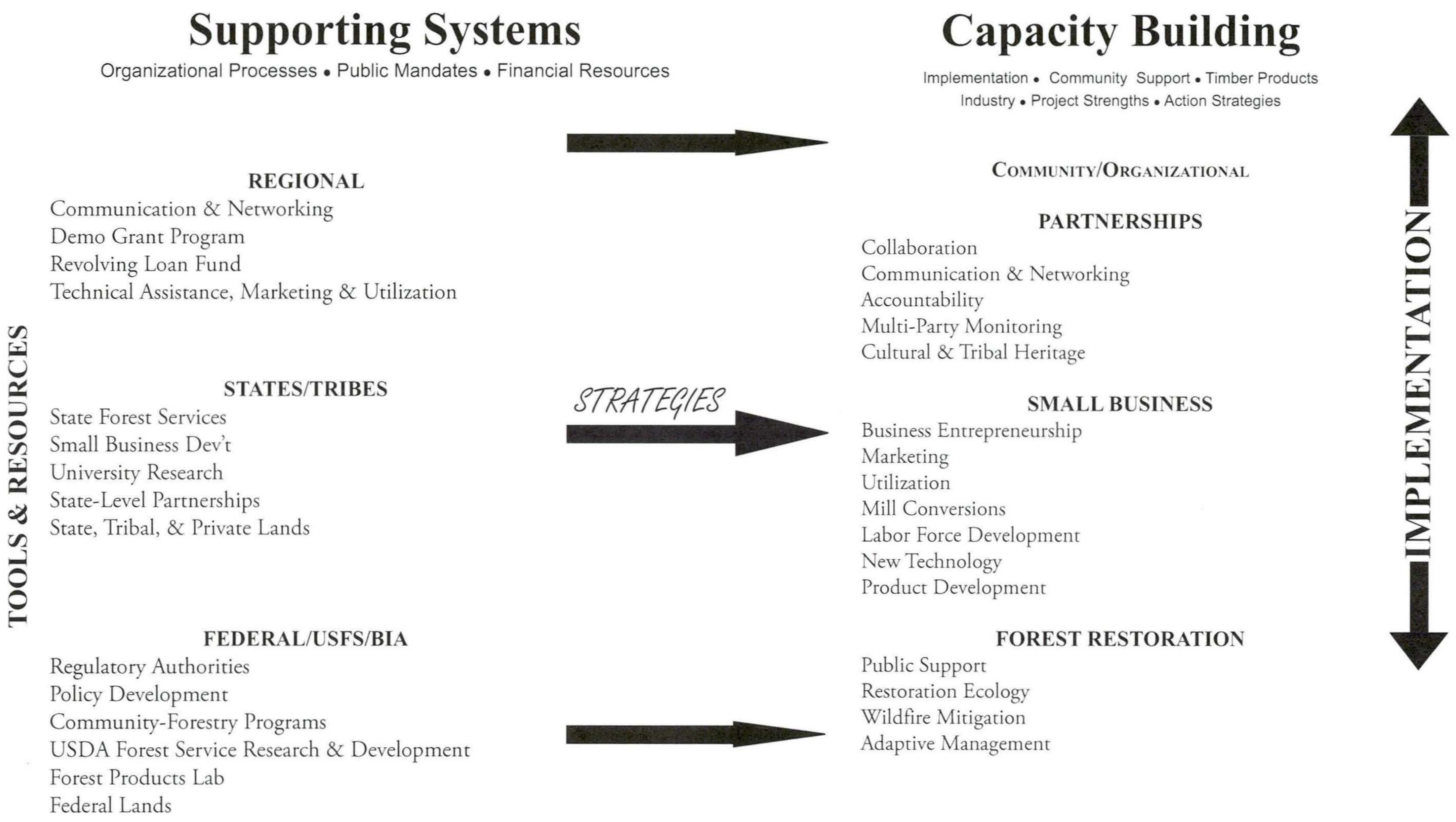
- Public Education: Educate the public about the changing directions in forest management and create an educational campaign that makes the case for forest restoration;
- Restoration Monitoring: Establish a protocol for monitoring restoration projects;
- New Technologies: Provide additional information on new technologies for value-added wood production;
- Prioritize Goals for Demo Grants: Set priorities for next year's community demonstration grants;
- Promote Successful Demonstration Grants: Promote successful results of demonstration projects;
- Legislative Leadership: Build legislative and governmental leadership for community sustainability and forest restoration;
- Incentives for Restoration: Provide assistance and incentives to promote forest restoration;
- Policy Support: Work on policies to support forest stewardship. (Emphasis added.)

While the restoration forestry movement is taking place throughout the United States and beyond, the Four Corners Sustainable Forest Partnership offers an insightful case example of the actual formation of a "support system" and the resulting "capacity building" among community forestry entities and collaborative partners (see Conceptual Framework, p. 14). We will use the experience of this partnership to illustrate the challenges of gathering and integrating the necessary resources to implement a stewardship approach to forestry.

Community-Based Forest Restoration &
the Four Corners Sustainable Forests Partnership

Conceptual Framework

Figure 1



Supporting Systems

Organizational Processes • Public Mandates • Financial Resources

TOOLS & RESOURCES

REGIONAL

Communication & Networking
Demo Grant Program
Revolving Loan Fund
Technical Assistance, Marketing & Utilization

STATES/TRIBES

State Forest Services
Small Business Dev't
University Research
State-Level Partnerships
State, Tribal, & Private Lands

FEDERAL/USFS/BIA

Regulatory Authorities
Policy Development
Community-Forestry Programs
USDA Forest Service Research & Development
Forest Products Lab
Federal Lands

STRATEGIES

Capacity Building

Implementation • Community Support • Timber Products
Industry • Project Strengths • Action Strategies

COMMUNITY/ORGANIZATIONAL

PARTNERSHIPS

Collaboration
Communication & Networking
Accountability
Multi-Party Monitoring
Cultural & Tribal Heritage

SMALL BUSINESS

Business Entrepreneurship
Marketing
Utilization
Mill Conversions
Labor Force Development
New Technology
Product Development

FOREST RESTORATION

Public Support
Restoration Ecology
Wildfire Mitigation
Adaptive Management

IMPLEMENTATION

PART ONE:
The Creation of a Support System

Organizational Processes ● Public Mandates ● Financial Resources

"The FCSFP is beginning to give people in the region a sense of common goals, partnership, and belonging."
(Carla Harper)

After about 15 years of work, we have learned that it requires an integrated and comprehensive support system to establish the new perspectives and practices of community forestry. The scale and breath of the changes needed to evolve a community stewardship approach to forest restoration requires changes and transformation in many, many areas. Not only are changes necessary in the scale and processes of the wood products industry, but also the fundamental approach to work in the woods is being transformed towards forest health and restoration. If the goals and methods, and even the rationale for forest management and wood production, are modified to balance commodities with stewardship, it is little wonder that many forms of "support" are needed, and will be needed, to make it sustainable.

If the goals and methods of vegetation management are changed on public lands, then public policies and mandates need modification. If there is to be a new orientation towards local stewardship, then community partnerships need to be formed and strengthened. If the economics and ecology of forest stewardship are to be transformed, then businesses, economic developers, land managers, scientists, community leaders and citizens will have to join forces to build and share

---

IN THE CONCEPTUAL FRAMEWORK (at left), we have arranged a two-part series of attributes or factors. On the left side are those resources, enhancements, or redirections that are needed to build a comprehensive support system for community forestry. On the right, are three major elements or components of community forestry; that is, the social-communal, economic, and ecological capacities.

These two major aspects of the model—supporting systems and capacity building—are taken up individually in Parts I and II of this report. We have separated these two elements conceptually to clarify and distinguish the factors needed to energize and encourage the restoration work, and those needed to actually do the work. Although at times the support and capacity elements run together, or become difficult to distinguish, it is often helpful to see the differences between the steps of building much-needed support and the actual implementation. At times the distinction merely reveals the two critical sides of the same coin; that is, gathering resources and taking action, or building readiness and implementation.

new and traditional forms of ecological, community, and economic knowledge. The ideal of building healthy communities, economies, and forests means there is work for everyone—for people with ideas, who want to work differently, create new visions, methods, authorities, and coalitions.

In this part of the report, we will address the many forms of support that can be bought to bear upon the transformation process. The end result of the transformation process is increased capacity within the social, economic, and ecological systems of forest stewardship and management. The community forestry support system includes additional or reallocated resources to build community based organizations, to ensure communication that disseminates hands-on learning, to enhance civic support, and provide the necessary mandates for community stewardship of public land resources. The scope and the complexity of the changes needed, at least at this early stage of transformation and development, means that most every form of organization, jurisdictions, interests, resources, understandings, and guidelines needs to be reframed and reintegrated in new ways, in order to achieve the overall goals of forest stewardship and improvement over the next 20-30 years.

The FCSFP—The Integration of Diverse Support Resources

> "The value of the FCSFP is that it created a coordinating group that earned the respect of the regional forester, and kept in touch with the tribes, businesses, and communities."
> *(John Waconda, FCSFP-BIA Tribal Coordinator)*

On one level of analysis, the FCSFP can be understood as a working group or network that made available 5.5 million dollars of EAP and National Fire Plan funding over a five-year period. While it accomplished this important task, it also drew together, or became the focus of, a series of additional resources, technical assistance efforts, programmatic mandates, and institutional support. Taken together these begin to establish a more comprehensive support system required to address a complex set of needs and objectives in community restoration forestry.

In a very important sense, partnerships such as the FCSFP become a functioning network that connects a community, business, or land manager to a large network of organizations, programs, public policies, and development processes that support the work of community forestry. Let's say you are a small logging business or the city manager of a rural community. Perhaps you are a forester on a national forest, or the chief of a rural volunteer fire department. You often find yourself caught up in many confusing and challenging real-life situations:

- You move to the state and simply need a few logs for your new furniture business, but can't get in the forest to harvest them;
- The old saw mill has been idle for the past eight years and has become an eye sore to the city council, and most of the former workers have left the region or retired;
- The last four times you offered timber sales of 500 to a 1000 acres, no one bid on them because they don't contain much in the way of commercial timber. The sales require a lot of thinning of small diameter trees that have little value;
- As you drive around you see homes and cabins interspersed in a dense canopy of trees, with narrow connecting dirt roads where it would be criminal to send a volunteer fire fighter in a wildfire;
- A study conducted in the watershed of the national forest over 10 years ago showed the tree density to be far above normal, making it prone to wildfire and disease, but you have no forestry staff to conduct the necessary environmental assessments to get approval to begin restoration work;
- The last logging business in the region left three years ago for the neighboring state where timber was available on tribal lands and a private ranch; how do you get them back home to start the needed forest restoration work?
- Five years ago the community got a wake-up call when a fire burned 37,000 acres of adjacent national forest lands, costing the city millions of dollars in lost economic activity;
- Unable to obtain timber on the national forest as in years past, you decide to retire from the

department. You often find yourself caught up in many confusing and challenging real-life situations:

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- The last logging business in the region left three years ago for the neighboring state where timber was available on tribal lands and a private ranch; how do you get them back home to start the needed forest restoration work?
- Five years ago the community got a wake-up call when a fire burned 37,000 acres of adjacent national forest lands, costing the city millions of dollars in lost economic activity;
- Unable to obtain timber on the national forest as in years past, you decide to retire from the logging business, lay off six employees, and sell your trucks, your wife is tired of being verbally assaulted by people waving protest signs as you drive out of the woods;
- A 74,000-acre fire on the national forest near your community cost 44 million dollars to fight, saving over 330 homes, while 54 were burned;
- After years of research you publish a report that indicates that over a million acres of federally managed forest lands require extensive restoration, but will cost upwards of $1200 an acre to thin and reintroduce a natural fire pattern.

Each one of these situations actually existed in specific communities in the late 1990's and the beginning of the twenty-first century in the Four Corners region. If you were one of the individuals, organizations, communities and land managers immersed in these situations you were looking for some sort of help, knowing full well that you could not solve the problems by yourself, or through your town or fire district or forestry organization alone. At these critical points, partnerships make

Lesson Learned

A key ingredient to partnership formation is an ability to gather and integrate a wide range of resources that can be become much more effective when connected and interwoven.

Lesson Learned

In community forestry, active partnerships are needed to establish a sense of collaboration, social movement, and mutual accomplishment. Individual businesses, communities, and forests can rarely be successful acting alone.

a great deal of sense. At these points, you feel very alone if you don't have active partners.

What a partnership offers is a network of resources, information, capital, planning, peer support, and common goals and methods. They offer a place to get started, assistance with identifying and solving a problem, and partners to team up with who can share in the challenge and the reward of greater forest stewardship.

Without additional supportive partners and resource, situations like those noted above become insurmountable. As an individual you spin your wheels. Unhealthy forests become catastrophic tinderboxes. Forestry skills and capacities decline to a non-remedial level. Unless you work in tandem with others who share your concerns, the problems become even worse. If you are a resource manager on either public or private lands, you have no one to turn to get the needed management work accomplished. If you are a fire chief, you really know you need the cooperation of whole neighborhoods of residents. Whether you are a small businessperson, a mayor, a district ranger, or an ecological scientist, you realize more deeply than ever before that you need coalitions of other people, land management agencies, local governments, and policy makers to solve a pervasive problem of declining forest health.

Certainly not all at once, but over several years of project development in the FCSFP, a conceptual road map began to be drawn. People began to see some of the routes, the places they needed to go, the places where some help might be available, and what a given community or forest need to do to become an authentic partner. The individual partners, organizations, businesses, governments and program leaders and managers began to see the big pieces of a basic road map come together, each with key elements. The parts began to fit together. Individuals and organizations began to see their role and working relationships with others. The pieces to the puzzle became clearer, although no less challenging to consistently and predictably obtain and integrate.

And herein lies one of the critical lessons of community forestry. Community forestry today remains an innovative enterprise, not a routine, institutionalized method. Even in 2004, it remains an emerging social and ecological process. While its outlines and basic directions are becoming clear, it is not yet a politically accepted means of forest management. Even some of its fundamental methods, such as stewardship contracting and adaptive management, are still being developed and evaluated (see United States General Accounting Office Report, June 2004, which addresses the public involvement aspect of implementing stewardship contracting; also, see Pinchot Institute reports listed on its website).

All or many of these key elements shown in Figure 2 are essential to an integrated support system, and are needed to build capacity for community forestry stewardship. Depending on the situation, most or many of these attributes are needed. One could hypothesize that when all of the supporting factors are in place and are operating in an integrating manner, there will be a greater likelihood of stewardship capacity being achieved

In the second part of this report, we will delve into the three major areas of capacity building: community partnerships, wood-product business development, and restoration ecology. However, first let us examine in more detail the elements of the support systems needed to begin building this new capacity.

A network of resources that support capacity building efforts of communities and businesses was integrated over the first years of the FCSFP. Resources include regional partnership development and various forms of organizational networking, funding through grants and loans, utilization and marketing of wood products, and implementation of new programs and authorities in stewardship contracting and wildfire mitigation.

Let us first take up the program areas of the FCSFP, which fall into four major areas:

Figure 2

Supporting Systems

Organizational Processes • Public Mandates • Financial Resources

TOOLS & RESOURCES

REGIONAL

Communication & Networking
Demo Grant Program
Revolving Loan Fund
Technical Assistance, Marketing & Utilization

STATES/TRIBES

State Forest Services
Small Business Dev't
University Research
State-Level Partnerships
State, Tribal, & Private Lands

FEDERAL/USFS/BIA

Regulatory Authorities
Policy Development
Community-Forestry Programs
USDA Forest Service Research & Development
Forest Products Lab
Federal Lands

A. Communication & Networking

> "When we get together to talk, I can see the big picture. Then you can find your place."
> *(Susan Snow, Southern Utah Forest Products Assn., Torrey, Utah)*

In many respects, collaboration is communication and vice versa; and a major FCSFP role was to coordinate communication and networking among individuals, projects, and communities who were limited in expertise, by remoteness of the community, and by poor communication networks or opportunities. This was so important in the minds of so many that it was recommended in a progress assessment report to the FCSFP early on in its existence (Richard and Burns, August 2001). One desired, and recommended, objective was to spread information and emerging knowledge quickly and efficiently by creating a communication network among local, state, and federal government agencies, NGO assistance providers, and private and academic research organizations, business community members, environmental activists, and others with a stake or interest, tied in closely with the public relations campaign that was underway at the time.

The FCSFP was in a position to provide an infrastructure for information exchange that could in turn build greater capacity for community forestry to grow regionally, while also supporting local applications. While effort was put into this, somewhat effectively, timely and relevant communication remains a challenge. People continue to work in relative isolation across the region. While methods and tools were usually applied at a regional level, much interaction occurred at local levels, as well. The latter often came in the form of education, oriented towards technical transfers, marketing assistance, and some business skills training. Communication at local levels seems to have improved as people have cultivated stronger working relationships over time and gained better understandings of common goals.

Other information exchange activities included an annual workshop for grant recipients, a media publicity campaign, field tours, an occasional newsletter, newspaper articles, and evaluation reports.

Increasingly, since the FCSFP inception in 1999, a wealth of information about community forestry amassed. Organizations have emerged that are providing new knowledge related to the attributes listed in this document (e.g., The Ecological Restoration Institute at Northern Arizona University, the Wood Center at Colorado State University, Jobs and Biodiversity Coalition in Silver City, New Mexico, Ruidoso Wildland-Urban Interface Working Group, etc.). All of these activities are contributing to the knowledge available to FCSFP partners. However, entrepreneurs are probably not interacting consistently

Lesson Learned

While community forestry partnerships need to evolve based on the needs and resources within their own region, several basic elements or factors seem to be common: Communication and networking, capital reinvestment, various forms of technical assistance, and a variety of ways to utilize and market the new products of restoration forestry.

enough to enhance their businesses and on-the-ground development of community forestry. This is probably due to the fact that a more consistent structure for communication is yet to be established at state and multi-county levels, but it is also due to the nature of communication itself. It simply takes time for new knowledge to work its way to all levels of the region.

One of the original concerns of the participants of the Taos Roundtable was the lack of an educated citizenry about what community forestry is and what it offers as an alternative to historical approaches of timber harvesting and community development. To address this issue in part, the FCSFP steering committee contracted with a Colorado media consulting firm to enhance awareness and acceptance of the work of community forestry and the FCSFP in the news media. Many media contacts were made, stories appeared in newspapers, magazines and on the radio, and the FCSFP received heightened presence in media over about a two-year period. During that time wildfires became a big news story and the consultants began offering stories about the FCSFP as already addressing the issues of wildfire mitigation. Some debate took place over the efficacy of conducting a media contact and publicity campaign, when the funds could have gone to other uses. Some questioned whether publicity was, in fact, education, or vice versa.

Consultants held brief trainings for grantees, teaching them techniques for speaking with reporters and other news providers. The thinking behind this kind of educational information relates to the continuing need to clarify to Americans what community forestry is and what it can mean for rural economies and for the health of forests. Despite these and other efforts among many local, regional and national partnerships, we are not yet to a point where restoration forestry and the stewardship philosophy that drives it are commonly understood among the general public.

It is unclear how effective the campaign was in building common understanding and acceptance of community forestry, although interest has been high among project representatives to see strong communication tools and methods made available and every opportunity to network has been highly valued. Certainly to some degree it contributed significantly to raise awareness of community-based forestry and the health of forests as one activity among many others.

FCSFP's annual workshop was perhaps the networking activity most well-received by grantees as a chance to meet other grantees/business owners from across the region. It was also a venue for experts, researchers, and government and agency representatives to share their knowledge and publicize their services. The annual workshop continues to be a popular tool and will probably be revived in some form at state levels after the FCSFP has finished its work.

A strong and effective component of the annual meetings occurred when individual entrepreneurs told their stories. By doing this simple thing, the significance and potential of what they were doing came through. The message has become "this is not industrial forestry; this is a practice of stewardship." The need to continue disseminating this message remains. Who better to speak about it than those average people in rural communities leading grassroots efforts to revive an economy and discover new relationships with the landscapes where they live?

Past evaluative reporting on the progress of FCSFP grantees lists characteristics of communication and networking that are still significant (Richard and Burns, August 2001, pp 34-35). The assumption was made that regular, timely, long-term information exchanges between participants across the region would be an essential and effective influence for advancing efforts. And while it may not have been a well-planned strategy, there was a commitment to an identifiable process of communication through the newsletter, the annual meetings and the various workshops.

B. Demonstration Grants Program

> "All along for the last 10-plus years, we have been saying, we need the small diameter businesses, we need the tools to do this. But until Four Comers, we weren't saying, 'Okay, we want you to do this, and here we are going to help you take this risk. We are going to share some of that risk with you.' That's again why the Forest Service can't do this. They continue to say, 'we're going to do all this fuel thing, we're going to do this and that.' But they not able to factor in the risk of private business and even communities in getting that done."
>
> *(Carla Harper, OCS interview, February 17, 2004)*

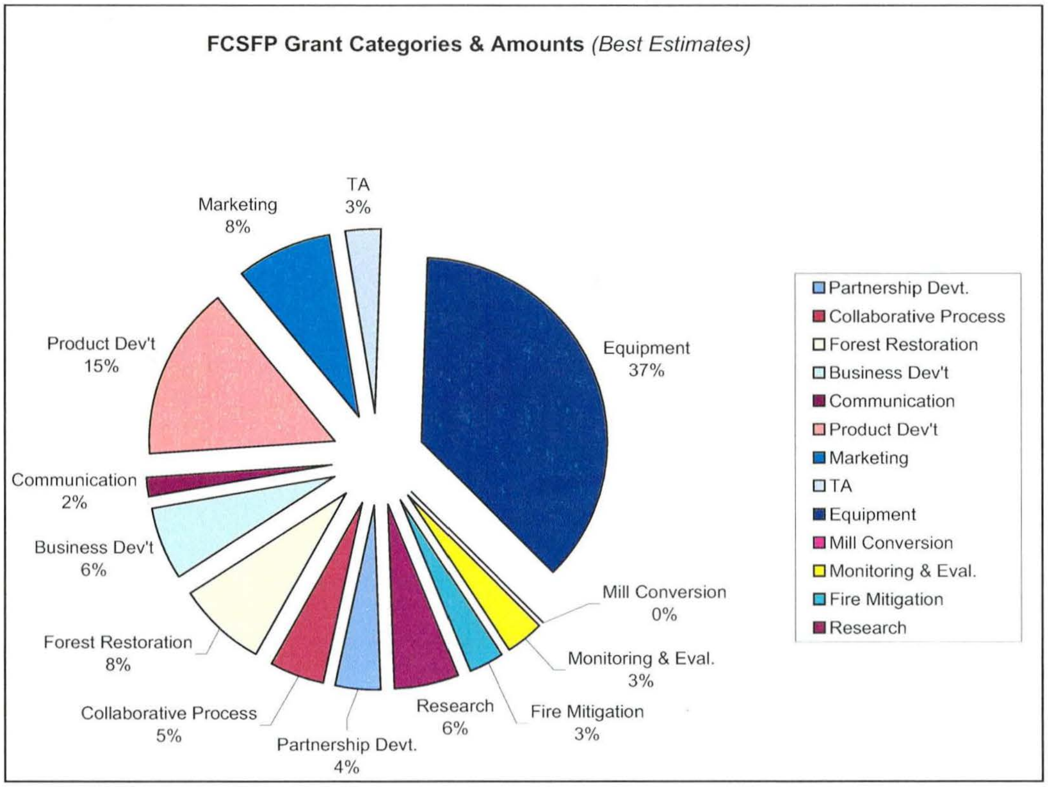
Funds made available through the congressional earmark allowed the FCSFP steering committee, state foresters, and other participants to better identify the region's issues so that they could design relevant programs. The FCSFP Demonstration Grants Program played a critical, capacity-building role towards conducting on-the-ground forest restoration. Grants funded a variety of activities associated with grantees' goals, objectives, needs, and desires; all of which helped individual businesses and communities link to forest-based development. It is obvious that some sort of grant and/or loan program has been, and continues

Lessons Learned

Some kind of infusion of capital is needed to support community forestry efforts. Debate Debate occurs about where to place the money—organizational development, on-the-ground restoration, equipment purchases, field staff—but the whole process needs financial support to gain a foothold, especially during the time needed to build a community or regional partnership, and reestablish some of the basic harvesting and processing infrastructure.

Figure 3:

(Source of data: FCSFP steering committee, www.fourcornersforests.org and grant proposal descriptions. Required matching funding, which is not factored in here, was an additional 25% of each grant. Categories listed represent the researcher's best estimate of where funding for each project was utilized and was based on information provided by FCSFP steering committee and state coordinators.)



to be, essential for building support for community-based forestry.

The demonstration program formed the core of support in developing essential components of partnership-based efforts, such as partnership organization, and marketing and utilization, as well as the other attributes. Past evaluation research (Burns and Richard, Oct. 2002) shows that demonstration grants to recipients supported 11 "attributes" that characterized the practical components of project activities and closely tracked with the needs originally identified during and since the Taos Roundtable. Depending on the needs and circumstances of each project, one or more of the attributes were identified as integrally significant to the ability of the project to succeed. The attributes are:

1. Partnership Organization
2. Collaboration
3. Economic Strategy
4. Workforce and Training
5. Technical Assistance
6. Restoration Forestry
7. Technology and Cost-Effectiveness
8. Product Development
9. Market Development and Marketing
10. Information Exchange/Communication
11. Monitoring

Various types of activities took place within each attribute area. For example, training could include a business-plan or proposal-writing instruction through a county small-business development office. Technical transfers focused on new products, or value-adding to existing products, or field tours to see the results of a particular restoration prescription. Information exchange activities helped largely to improve interaction among different participants in the partnership. This area was high on the list of successes of the FCSFP as viewed through the perspectives of grantees; as well-received as technical assistance.

The FCSFP is premised on the idea that partnership organization creates a supportive, integrated environment for restoration forestry to occur. The demonstration grants program was created with the intention of funding multi-party organizations whose members worked together towards a common goal, such as on-the-ground restoration projects. The steering committee quickly learned that there was a multitude of possible types of recipients within that framework. Members also quickly learned that actual in-woods restoration projects proved to be difficult to achieve because obstacles to on-the-ground accomplishments were so great. What few groups did exist were experiencing problems at getting into the forest to harvest. Access to supply was, and continues to be, viewed as problematic because communities continued to depend on timber from national forests when the Forest Service was either reducing timber sale offers, or no one could, or would, bid for the sales that were offered.

The industry, too, had declined to the point at which many regions had very few or no forest workers to do the job. The science of restoration ecology was still relatively new and even less understood by a critical mass of people to actually attempt a restoration prescription. Also, there were debates over what were the best prescriptions. Few had been tested. Therefore, the committee had to take a step back and consider different strategies. One was to do what they could to keep the existing timber industry in rural communities afloat.

"[The industry] was like a trauma ward, when you look at the bleeding and not at the patient," one person said in retrospect.

While alternatives were suggested for how grant funds could be allocated, the decision was made to place substantial support in the hands of business entrepreneurs. This was done in contrast to providing funding to whole partnership organizations, which the committee also supported.

New Mexico state FCSFP representative Kim Kostelnik said, "We funded single businesses because there was a need. Eventually, we did come round to stipulating participation in some community-based partnership effort, but collaboration didn't become a big part until WUI (wildland-urban interface) money (National Fire Plan) came along. The essential point to note is that grant funding clearly supported development of one or more of the 11 attributes that were necessary in order to advance whether it went to partner

Relative to the use of EAP funding, do you think this approach to a concentrated or regional model is preferable over direct funding through the traditional USFS grants and contracts mechanisms?

"Yes, I do. There are past instances of using EAP as " feel good" types of projects. Some don't have a real strategic focus. Whereas with FCSFP model or a regional approach, you have focus. There's real purpose here (in the Partnership). And the money is far more important to be used to help solve these ecological and community problems, forest restoration, than it is to buy a sign for the town. ...That's not the purpose of this program. That only allows the critics to become more vocal and have more ammunition. In this day and age of tough budget decisions, any discouraging word throws a program out. We're not able to defend it. If we don't have all the NASF behind us, we're not going to get it funded."

(Bob Dettmann, Region 2 USFS, regional rural community assistance coordinator)

"I don't see the need for big money for partnership development, because if a community sees a need they will get together whether they have money or not. With commitment from agencies, funding individuals to implement projects will help get it done. We didn't have a lot going on in Ruidoso until [SBS, Inc.] had funding. Then the WUI (Wildland-Urban Interface) came in to play a role and things took off. Bill Greenwood (in Eagar, AZ.) got the Walker Brothers, and others got interested. This forced the Forest Service to get NEPA on the shelf and so it goes round and round. One thing leads to another."

(Kim Kostelnik, NM Energy, Minerals, and Natural Resources Division)

"The two factors that will lead to success are the human and industrial capacity to treat the land and leadership within the land management agencies."

(Toby Martinez, New Mexico State Forester)

organizations or to individual businesses.

"There is value in having financial support for partnerships, organizations that have a good handle on what they're trying to accomplish," said Dave Schen. "[while]...agencies can bear some of the costs, in our situation you're asking private sector people to participate, so there needs for money to support them (personal communication, spring 2004)." One key community member of the FCSFP pointed out that the demonstration grants brought a new "cooperative approach to work on public lands." The grants increased opportunities for " communication and transfer of knowledge" in addition to supporting new equipment for businesses and partnerships.

The pivotal event that stimulated the FCSFP steering committee to fund equipment purchases rather than overall organizational development was the National Fire Plan authority that allowed the FCSFP to use some funds for equipment purchases. But, also, industry people influenced the FCSFP to fund grants for the purchase of equipment. Many businesses said they needed capital to invest in equipment to step up production, improve efficiency, or manufacture a new product or existing product that they didn't have the ability to make at the time."

"We didn't see tons of ideas in terms of new products and utilizing pine, aspen, etc.," Schen said. "When we got the extra funding from NFP to start the RLF (Revolving Loan Fund) along with a different mix of EAP money, we reacted to what our constituents were asking [i.e., fund equipment purchases]."

C. Revolving Loan Fund

The Four Corners Sustainable Forests Partnership created its Revolving Loan Fund to help forest-products business owners acquire much needed capital. Along with gaining access to small-diameter timber and wood-product markets, and receiving technical assistance, industry people often placed capital high on the list of needs, particularly for purchasing equipment.

In November 2000, the Rocky Mountain Home-Based Business Association proposed a program to provide capital lending for the retention, creation, and expansion of forest-based businesses in the Four Corners region. In March 2001, Four Corners Sustainable Forests Partnership representatives met with Revolving Loan Fund Administrators from Colorado, New Mexico, Arizona, and Utah to discuss the Partnership's proposed Revolving Loan Fund program. Shortly afterwards, the administrators agreed to include the program in their existing programs. Formal guidelines, policies, and eligibility criteria were developed by June 2001 and applicants were solicited and screened by that fall. During spring 2002, the majority of loans were awarded to the qualifying applicants. Each Four Corners state's RLF administrator received $125,000, who in turn awarded amounts between $5,000 and $80,000.

The Revolving Loan Fund complemented capital available through the FCSFP Demonstration Grants Program, which has emphasized community-based collaboration and restoration forestry that occurs through multi-party partnership and cooperation. A significant characteristic of the RLF is that it was developed utilizing existing structures. Many FCSFP participants expressed that the reinvestment potential offered by a loan program has more potential than a grant program.

D. Technical Assistance and Utilization and Marketing

Technical assistance is a supporting activity (left column of conceptual framework) to the capacity building and implementation that occurs (right side of column). By providing regional resources to local projects, the ability to see momentum at local levels is enhanced. This all seems obvious, of course; but achieving it hinges on a clear and shared understanding of where those resources are best put to use, who needs and can benefit most completely from them. Only then do things fall into place.

The wood industry that is responding to the needs of forest restoration is filled with new ideas, processing equipment, and products. Old tools and production methods typically cannot be used in the same old ways with huge volumes of small trees, brush and limbs, bark and sawdust. Early on, the FCSFP steering committee hired a staff extension forester housed with the Colorado State Forest Service who provided individualized technical assistance to forest-based enterprises throughout the Four Corners (Tim Reader). Topic areas included: efficiency studies, business planning, engineering, equipment experimentation, mill conversion, and technology transfer. Occasional topical workshops were held when common regional needs were identified. The first such workshop was held on wood drying technologies in February 2001. Reader also organized specific consultation for individual businesses when requested.

Technical assistance expanded in late 2001 to include

Case In Point

In Colorado, Region 9 Economic Development in Durango runs that state's revolving loan fund program. Region 9 establishes and confirms applicant financial and credit worthiness for participation in the RLF program in five counties. Applications are rated with a cumulative numerical score based on how well the applications meet five RLF objectives:

1. Business Retention: Operational capacity to implement and accomplish forest health, restoration, and fuel reduction treatments on public, private, and state lands.
2. Business Expansion: Capacity to develop new product lines and markets specifically utilizing small diameter timber resources.
3. Rural Community Stability: Recognizes the importance of the applicants business to rural community economic stability and/or revitalization.
4. Operational Reputation and Experience: Qualitative assessment of applicant reputation and experience based on work history with federal and state forestry officials.
5. Program Promotion and Publicity: Potential for success, and receptiveness towards publicity and promotional efforts of the RLF program.

As with all four states, the Colorado program began (March 22, 2002) with $125,000 to lend. As of spring 2004, nine loans had been made in Colorado, totaling $145,000. There were eight outstanding accounts with a remaining balance of $96,000. For three of the loans, another $70,000 were leveraged utilizing other loan programs available through Region 9. Another separate loan from a bank for $120,000 was made in conjunction with one of these loans, meaning a total of $190,000 was leveraged. To-date no losses have incurred, however one loan was in default for $7,900 on an original sum of $10,000.

marketing assistance to willing businesses in order to better assist them with small diameter timber products market identification and entry. Many rural community people lack the resources, skills, and funding to address marketing, which many believed could aid in becoming sustainable. Businesses were asking for help with such things as preparing a brochure, developing websites, and developing marketing plans. A marketing specialist, Carolyn Dunmire, was contracted to assist those businesses requesting help by focusing small amounts of technical assistance, financial resources, and staff time through a sort of mini-grant program. The degree to which this assistance was beneficial is not clear in terms of increased product sales and service contracts, but the effort continues to link the timber business to the markets.

The economics of working with low-value wood requires a high level of technical problem solving, a level not available consistently throughout the Four Corners Region. Most FCSFP projects received some form and degree of technical assistance; however, ample available technical assistance reached some projects, while other communities and projects received little. Past evaluation research of FCSFP projects found that while projects received a wide range of technical assistance, the availability overall of assistance was rated less than adequate during 2000. Over time, however, efforts to improve technical assistance showed progress as the kinds of needed assistance were identified. Nevertheless, some obstacles remained. This was due in part to a shortage in specific kinds of assistance, or the knowledge needed, available to some projects that were distributed at some distance throughout a large geographic region. In all cases, there was substantial benefit from having a technical assistance component in the economic revitalization and forest restoration framework.

The kind of assistance needed by a project or initiative depends upon where the project or community is in its development, and on the ability of project leaders and assistance providers to recognize what those needs are. Early on in their development, projects needed organizational- and partnership-development expertise. Those deeply involved in actual forest restoration need ecological, silvicultural, and harvesting capacities. Much depends on where the project is geographically located; for example, near or far from a university technical assistance center or other entity.

Discussion with a number of project participants brought out areas in which they believed technical assistance is needed, including continued product development, business administration and development, market development, marketing/advertising, and workforce training.

Remoteness of some rural communities from technical assistance providers hampered achieving consistency; e.g., research knowledge is not reaching the more remote, less-funded

Lesson Learned

Things an agency can do to support capacity building: 1) Identify the needs of entrepreneurs and help them; 2) Put on financial and technical assistance workshops, with venture capitalists and small-business-development council representatives.

Technical Assistance Resources

TA publications available from Colorado State Forest Service Forest Products Extension Specialist, Tim Reader

- Manufacturing and Marketing of Wood Caskets Made from Pallet Grade Aspen Lumber, Dec. 1998.
- Composting with Wood Waster and Municipal Biosolids, Nov. 1998
- Wood Product Conversion Study Parts I and II, Sept. 1998 and Nov. 1998
- A Survey of Montezuma County Forest Products Related Businesses and Mill Residue Assessment, July 1998
- Dip-diffusion Treatment of Wood: A value-added option for Four Corners' forest product manufacturers, Nov. 2000

community-based efforts in a timely manner. In addition, a lack of awareness has existed on the part of some community-level participants of the kinds of assistance that are available, where to find them, and how to contact and contract with them. Just giving them the information they need to do these things would make a huge difference in their progress.

Often, local areas lack their own knowledgeable experts; for example, millwrights for infrastructure-building activities, such as retooling defunct mills for handling new materials, and ecologists for understanding local forest histories and structures. A few projects have had built-in technical assistance from its own members, such as the Greater Flagstaff Forests Partnership, which has partners with expertise, or who are associated with service-oriented organizations.

There is a need for technical assistance that is not only sensitive to local identities and autonomies. Yet, the remoteness of some rural communities and technical assistance providers from each other hampers assistance development. One resolution for achieving regular, continual opportunities, if the TA source is not located in the community in need, is for TA providers to spend more time in the communities that they are assisting.

Lessons Learned

The ultimate goal of technical assistance to keep in mind is to achieve locally self-sustaining operations.

Lessons Learned

The economics of working with low value wood requires a high level of technical problem solving, a level not available consistently throughout the Four Corners Region.

Tracking and Linking Technical Assistance Resources

Communities and projects need help with "technical" issues and questions. And, if you look around a little bit, there are a lot of answers available. So what's the big deal? Let's get to work!

In Catron County, a house log company has a pile of sawdust that might be utilized. At Jemez Pueblo, there is a question about whether to buy a medium- or large-sized sawmill. In Escalante, Utah, the partnership wants to find out what volumes of raw materials will be needed to make an existing, technically advanced, portable sawmill economically sustainable. In Catron County, there are concerns about how to implement a proposed silvicultural prescription, while at the same time maintaining a broad agreement established among community interests.

The typical way to get plugged into the technical assistance (TA) network is to call your state or tribal coordinator, or get in touch with Tim Reader, the marketing and utilization specialist with Colorado State Forest Service, located in Durango, Colorado. Behind and around Tim is a significant list of other resources. Jerry Payne with the USFS Region 3 office in Albuquerque has a wealth of information about biomass energy. Kurt Mackes and Dennis Lynch, with the forestry program at Colorado State University have inventoried all the potential wood products in Colorado, their volumes, uses, and sources of supply.

Dr. Mackes has also studied using wood fiber in producing concrete and for animal bedding. Denny has completed over a half a dozen comparative cases of harvesting costs and techniques in different forest situations in Colorado. In Denver, McNeil Technologies is identifying and evaluating as many ways as possible to utilize biomass for power generation.

Carolyn Dunmire, working out of the Cortez, Colorado area, provided an assortment of wood product marketing tools and techniques on a quick turn around basis.

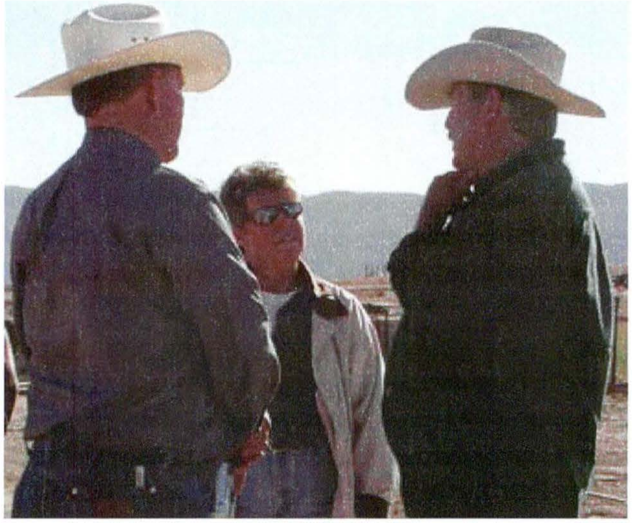
Since the community projects and businesses have an array of TA questions, and a significant investment has been made in resources, the main question is how best to link them up. For the most part the current arrangement works pretty well. People make TA requests. Tim or Carol get around to seeing them as quickly as possible. Tim puts on a workshop or two a year. They have been well-attended training events on air-drying or using dip-diffusion techniques to chemically treat a post and pole product. What could be better?

What seems to be needed is a better way for the variety of technical assistance resources to work together more closely. What would this look like? It would simply be a way for Tim, Jerry, Denny, Kurt, Carolyn, and any relevant others to meet regularly, compare notes, review requests for assistance, and propose an integrated training and workshop schedule for the coming year. This would probably make good sense for the region as a whole.

States/Tribes

> "In response to their mission, the state forest organization's role is the delivery of state and private forestry programs. Working with communities is part of their mission, working with landowners and communities, providing forestry technical assistance. They understand the utilization and marketing piece, which is what the FCSFP is really about. It's a natural fit for state forestry. It is an important and unique role"
>
> *(Bob Dettmann, OCS Interview 3/16/04, Durango)*

Within the FCSFP model both states and tribes have played key partner roles. As important jurisdictions they provide auspices and authority for resource management and community forestry, bringing to the table special niches of forest resources, knowledge, and vision.



"States understand better the role of S&PF with communities and can play that role better. It is difficult for communities to understand this role. State forestry organizations are in a better bargaining position to carry out the community forestry role."

(Joel Frandsen, Utah State Forester (left), speaking with Linda Linn and Dell LeFevre)

State Forest Services

> "State forestry has tremendous authorities to get things done. We don't need new authorities. We need to work more inside the community. There is an immediate need so there will be no more Ruidoso's."
>
> *(Kirk Rowdabaugh, Arizona State Forester, referring to recent catastrophic wildfires)*

As has already been mentioned, the state forest service organizations in the Four Corners states, Arizona, Colorado, New Mexico, and Utah, have played a significant role in initiating and developing the FCSFP. The involvement of state forest organizations (SFOs) is somewhat unique in the make up of community forestry partnerships throughout the western United Sates, and this is clearly an important addition. State forestry organizations can play specific roles in working with the private business or entrepreneurial sector. For example, they can be very proactive in supporting the development of wood products businesses, in developing wood utilization and marketing programs, and in building networks between federal, state and community institutions.

In one sense, SFOs provide a key bridge building function between public and private entities. The oft-mentioned goal of establishing public-private partnerships to solve large-scale problems is one that fits well within the purview of SFOs. State foresters can take a broad statewide perspective, linking business enterprise development and public land management needs across a broader commercial and political landscape. Whereas the US Forest Service may, by virtue of regulations or internal cultural tendencies, be focused on lands under their jurisdiction, the state forester has a well-accepted role and responsibility to work with private property owners and businesses, to focus on treatments, utilization, and marketing of forest products, and to provide community assistance through a variety of educational, programmatic, and research products.

Nowhere is this clearer than on the issue of catastrophic wildfire mitigation. SFOs have a specific responsibility to work with private landowners and communities that fall with in the wildland-urban interface (WUI). As is made clear by the mandates within the National Fire Plan, collaboration across multiple jurisdictions is imperative if wildfire mitigation is going to be successful. Working with public managers and local communities to collaboratively focus fuel treatments in a cross-jurisdictional framework is a primary measure of success. Additionally, joint efforts need to be made in fire prevention education, community wildfire protection planning, and in the utilization of wood materials removed from the WUI.

Within the FCSFP, a variety of roles have been played by the SFOs to one degree or another, including statewide forest health assessments, mill retention, and assisting communities in planning and fuel reduction (through the National Fire Plan). Underlying these specific actions is the opportunity that state foresters have as significant advocates for community forestry within the programs of State and Private Forestry of the USDA Forest Service. This is a bridging and networking role that fits uniquely within the program mandates and the cross-boundary perspectives of SFOs.

In the FCSFP, state foresters have played leadership, organizing, and fiscal management roles. Together the four state foresters formed an Oversight Committee to govern and guide the Partnership. The New Mexico SFO (Energy, Minerals, and Natural Resources Division; or EMNRD) provided the administrative contracting authority for all of the funding received through EAP of the USFS, managing all of the grants and contracts made to communities and businesses over the five years of the funding authorization. The Colorado SFO provided the administrative structure for the regional marketing and utilization specialist, who worked out of Durango, Colorado. A staff member of the Arizona SFO sat on the FCSFP Steering Committee, which provided on-going guidance on program development and implementation. Two of the FCSFP state coordinators, in Utah and New Mexico, were state forest employees. Additionally, a BIA liaison, John Waconda, represented tribes in the region as a member of the steering committee and acted as a grant coordinator for tribal funding proposals.

In a variety of ways all of the state foresters provided political advocacy for the causes of community forestry through the National Association of State Foresters (NASF), state government, and through dialogue with representatives of the federal land management agencies. The examples which they provided have demonstrated the important and unique role to be played in community forestry by professional forestry leadership at the state level, especially with regard to private-public partnership development.

> "But once the state foresters get a budget from EAP and they start to develop a program, then all five of our SF's (in USFS-Region 2) would stand up and say, 'EAP, you bet.' They got a piece of the action. Many of these other states, they didn't have a piece of the action. All they saw was that under a constrained budget, $25 million of EAP funding, was going some place to the interlopers and not part of their program. But once they get a piece of it--of the action-- and start to develop a program, and see the results and see the positive part of it, then they start to become supportive. And that's not rocket science."
>
> *(Bob Dettmann, March 2004)*

Small Business Development

> We have to do a better job of linking up our people to the resources that are there, whether they are local or regional. That's the need. People have the resources out there. So we have to be diligent in politely bashing down their door. ...If the guy is an expert in developing business plans, and a wood worker needs some direction, I need to go make that guy come help him. ...Who really has the tools and how can I fit them in for our needs here?
>
> *(Brain Cottam, former coordinator of the Greater Flagstaff Forest Partnership, interviewed March, 2004)*

Most rural community businesses in the timber industry had little or no experience at systematic, organized business development. Even a business plan was a foreign concept for many. However, to the advantage of the FCSFP model of community-based efforts, small business development support services can come from existing sources; nothing new has to be created to meet the need. Regular state programs, such as those activated through the Revolving Loan Fund, can provide needed services. Resource, Conservation and Development Districts (RC&D), county economic development councils, community colleges, and others are already involved in some areas. Enhancing their role is one clear opportunity awaiting attention. They are already part of the infrastructure.

A number of community-based service providers have been involved in supporting businesses associated with the FCSFP. They include Pioneer Community College in northeastern Arizona, small-business development consultants Randy Johnson and Dawn Gardner out of Colorado State University, Region 9 Economic Development District in Durango, Colorado, Grant County Economic Development Council in Silver City New Mexico, Wayne County Development Council in south-central Utah, and Southern Utah University Economic Development Office in Cedar City.

University-Based Research and Applications

> "We do need a strong tie to universities; one role is unbiased monitoring and evaluation. It has more credibility, like the work Romme and Lynch did...it was all credible...and also universities can help in facilitation...Working with universities is a way to rectify conflicting data. Getting the hard numbers together...so the communities aren't learning the same lessons over and over again. The university helps us sort that stuff out. The national labs fill that role, too. I would have to place the Forest Products Lab in that category also."
>
> *(Bob Dettmann, OCS Interview March 16, 2004, Durango).*

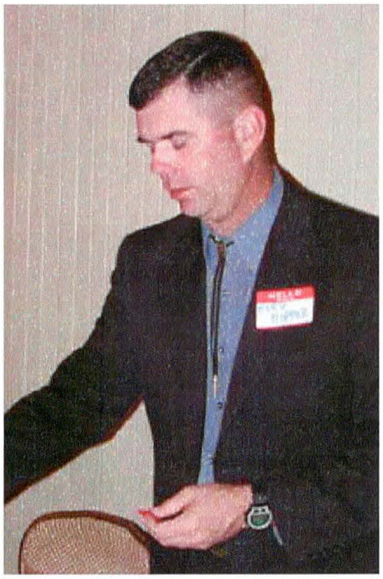
> "Especially when you are diving into the dark, somebody's got to have some kind of light that they can shine on certain things that have promise and that are credible and have some sort of discipline behind them, some science behind it, so you are anchored in that. That goes for the ecological work, as well as the economic and various forest products, the technical side. It's absolutely a strong piece."
>
> *(Bob Dettmann, OCS Interview March 16, 2004, Durango)*

Because of the need for advanced technology and the latest in scientific knowledge, it is obviously helpful to have university researchers as partners in community forestry. For over a decade, the ecological and natural fire regime work of Bill Romme, Wally Covington, Steven Pyne, and others have been utilized to explain the crisis in southwestern ponderosa pine forests (see a recent summary of these perspectives in Friederici, Peter, editor, 2003, *Ecological Restoration of Southwestern Ponderosa Pine Forests.* Flagstaff: ERI). These research efforts establish the ecological needs for active management of stand densities in much of the ponderosa pine forest of the Four Corners region.

Important work has also been completed by Dr. Dennis Lynch on the economics of forest thinning and product utilization, in particular on the Ponderosa Pine Restoration Partnership sites

"My work is building capacity by building bridges from the stump to the consumer, thinking backwards from the product to the woods. It's about reverse engineering and it's coaching."

Herb Hopper,
Arizona FCSFP
State Coordinator



Lessons Learned

Increased sharing and interaction among the community partnership, business projects and agencies, such as the USDA Forest Service, has proved productive.

on the San Juan National Forest in Southwest Colorado (Lynch et al 1998). Dr. Kurt Mackes has continued the work begun by Lynch, looking at harvesting cost comparisons on about a half a dozen sites in Colorado that possess different stand structures, and therefore, different product volumes and harvesting costs. Mackes has also expanded his work, focusing on the wood science applications and testing of various existing and new products, suggesting potential manufacturing and marketability possibilities. In product utilization, for example, the use of woody biomass for animal bedding to reduce mortality, and as a supplement to concrete manufacturing. Recently, he has begun work on biomass utilization in power and heat generation.

Other university-based research is occurring through the Greater Flagstaff Forest Partnership (GFFP), utilizing students and professors at the Northern Arizona University School of Forestry and the Ecological Restoration Institute, headed by Dr. Wally Covington. A recent partnership update (January 2004 indicates that over 95 research processes are underway with regard to a variety of treatment prescriptions and their biological and terrestrial effects within the GFFP project boundaries.

Even with these successes, the need for scientific and research assistance is considerable. With basically two university-based forestry research centers in the Four Corners region, located in Fort Collins, Colorado and Flagstaff Arizona, the challenges of covering a large geographic region are enormous. On-going work is needed to address maximizing harvesting techniques, large-scale landscape restoration prescriptions, restoration economics, and community collaboration methods, among others. Alliances and partnerships need to be created with the USFS-Forest Products Laboratory in Madison, Wisconsin and through various

USFS Research Stations to identify research and technology development needs (more will be said about these partnerships in a later section on US Forest Service Research Stations).

Throughout the FCSFP there is a continuing need to collaboratively establish an on-going applied research agenda that meets the needs of local communities, businesses, harvesters, and land managers. Formal task groups and informal networking need to be increased to ensure that research is being focused on the practical needs of community forest practitioners.

Lesson Learned

Sub-regional or state-level community forestry partnerships can be very highly effective as integrating and supportive organizations when they focus on an appropriate geographic scale where a critical mass of community, economic, and ecological needs and opportunities are present.

State-Level Partnerships

Set along Interstate 40, one hundred miles north of the pine forest of the Mogollon Rim, Holbrook, Arizona is an unlikely place to locate the communications center of the Arizona Sustainable Forests Partnership (ASFP). However, this is the headquarters of the Little Colorado Resource and Conservation District (LC RC&D). For many years, the Little Colorado RC&D has provided assistance to local communities towards building sustainable forest products economies. A principle example of this was the "Small Diameter Action Team," of the LC RC&D, which arranged a study by Richard Mirth from the Engineering School at NAU in the mid 1990's. The study showed that a "phenomenal amount of material" needed to come off of the forest, specifically that that over a 30-year period, more wood needed to be removed than was cut when the pulp mill was operating at Snowflake (personal conversation with Bill Greenwood, Town Manager, Eagar, Arizona).

This began a dialogue, which led to a process of organizational development that has produced a high level of collaboration among a wide range of businesses, local governments, federal land managers, and state agencies, including the Arizona governor's office. After approximately 10 years of study and networking, the ASFP has evolved into a multi-faceted community forestry organization. It is an excellent example of a sub-regional, or state-level, coalition. Within a radius of 100-125 miles in northeastern Arizona, there is a concentration of human, community, and natural resources that facilitates the creation of an active collation of community forestry members. From its objectives listed below, one can gain a perspective about the strategic and integrated orientation of the ASFP.

Objectives

- Respond to changes in forest products industry in Arizona, addressing forest restoration activities decreasing the risk of catastrophic wildfire and offering solutions for the promotion of small-diameter timber harvesting and subsequent products.
- Assist individuals and businesses, that previously relied upon

large industry, to identify products and markets that utilize existing machinery, equipment and human capital in order to increase economic viability.

- Transition existing forest products industry leaders toward vertically integrated, ecologically sustainable forest management and industry relationship.
- Evaluate the feasibility of revitalizing closed sawmill facilities for the purpose of developing an innovative forest products industry, supported by a procurement cooperative, and a resource sorting facility and development center.
- Enable communities to enhance "capacity building" strategies that encourage diversification of the existing economic base, providing sustainable solutions to employment and environmental issues.

Another indication of the strategic perspective taken by the ASFP is the Arizona Industries of the Future (draft) proposal recently formulated, which includes the following key objectives:

- Create an advocacy group that promotes the Arizona forest and forest products industry, while concurrently communicating to the public on issues such as forest ecosystem health and the merits of purchasing Arizona wood products.
- Create government and financial incentives for private businesses to expand current sustainable forest and wood products, and develop emerging technologies in the forest products industry.
- Assist forest practitioners, wood processors and manufacturers to purchase equipment, expand production and conduct manufacturing assessments, all designed to build long-term sustainment into their efforts.
- Create a research and development program to develop and test improved manufacturing processes and equipment to produce cost-effective, value-added goods from forest restoration materials.

The ASFP is one of the best examples of a state-level, or sub-regional, coalition to improve opportunities in restoration forestry, because of its multi-faceted and broad membership approach. It includes a diversity of partners from state government, to local counties, small wood products businesses, university cooperative extension, and a Small Business Development Center at Northland Pioneer College. It has the benefit of a strong working relationship with a national forest, the Apache-Sitgreaves based in Springerville, Arizona. Within a radius of about 100 miles, there are small and large saw mills (Reidhead and the Fort Apache Tribal Mill) and a variety of wood products enterprises, (Universal Laminators, Forest Energy Corporation, Mountaintop Wood Products, and an association with Arizona Public Service to produce energy from biomass waste materials), all of whom produce an integrated stream of products such as laminated beams, cabinetry, house logs, traditional saw timber, and wood stove pellets (see additional information about wood products under the utilization and marketing section of Part II below).

Key to the success of the ASFP is the dynamics and networking that have been created by a critical mass of partners working together at an appropriate geographic scale. While the partnerships interacts with other organizations and agencies from the Arizona governor's office to the Greater Flagstaff Forests Partnership, the Prescott Area Wildland Urban Interface Commission, and the Natural Resources Working Group (active in the Blue Ridge Demonstration Project near Pinetop), it is able to prioritize its attention on building a social and economic infrastructure for community-based restoration forestry in northeastern Arizona.

Part of the momentum of the ASFP can be attributed to the recent development of a long-term stewardship contract, entitled the White Mountain Stewardship Project (see Apache-Sitgreaves National Forest website). This contract has just recently been awarded to two businesses, Rob Davis of Forest Energy in Show low, and the Walker Bros. in Eagar, Arizona. Together they have formed a limited liability corporation, Forest Futures. Along with some hazard-tree salvage work resulting from the Rodeo-Chediski Fire in 2002, the new long-term stewardship promises to bring much needed sustained access to raw materials in this region.

Tribal, State & Private Lands

The case being made for community-based forest restoration is not exclusive to federal lands. In fact, tribal, state, and private lands often are making strides not yet occurring on federal land. This multi-jurisdictional diversity of land ownership is an important ingredient in the context of providing resources and support to community-forestry efforts. This diversification of access to forests is creating a number of opportunities. One area of particularly strong opportunity obviously is fire mitigation and several federal authorities to support community forestry: the Health Forest Restoration Act, Healthy Forests Initiative, National Fire Plan, Stewardship Contracting, and the Tribal Forest Restoration Act signed into law by the president in July 2004.

Harvests and treatments on private land are developing a record of outcomes from which new knowledge may be gained about effects of small-diameter harvests related to wildfire, rehabilitation, regeneration, succession, and wildlife habitat come back.

On some tribal land, for example, the Fort Apache Reservation, a decades-long history of timber harvests have produced healthier trees that in turn produce better quality lumber. So much so, that the Zuni Furniture Enterprise buys lumber from Fort Apache for crafting their prize-winning furniture. As Sterling Tipton, Zuni Furniture Enterprise director says, they can't find the kind of quality timber they need in their own neighborhood.

The quality of Fort Apache timber is evidence of the results of thinning out overstocked forests, whatever the ownership. Some results are already showing up on private lands, since increasing harvesting has been occurring in response to wildfire threats. It is almost common knowledge that although we hear on the news that so many homes were lost to wildfires, many were also saved because the owners had conducted defensible space thinning before the fires struck.

The success can be attributed to state foresters interacting with private landowners to plan and conduct defensible space treatments. One area reporting notable progress is the seven-county region of south-central New Mexico where the forestry division of the state's natural resources division works with private landowners to conduct wildfire mitigation. Forester Barbara Luna reports considerable progress in fire mitigation on private land, as well as some momentum in fuels reduction on public land in the wildland-urban interface zone. She reports that they are improving the ways of working with private land owners, as well as actual fire mitigation treatments.

"In my 20-year career, I've never seen anything so successful," Luna said. She attributed much to wildland fires that have struck the area in recent years for motivating people to participate in the Ruidoso Wildland-Urban Working Group. The group has about 80 members, including federal, state, municipal, and private individuals. She credits the group's longevity to funding, such as that from the Four Corners Sustainable Forests Partnership.

Ms. Luna said that the greatest opportunity to build capacity, or to take advantage of what capacity exists right now, is related to the utilization of small diameter timber between Sherry Barrow Strategies, Inc. in Glencoe, and Sierra Contracting in Ruidoso Downs. These entrepreneurial businesses are major avenues for disposing of low-value material removed from private and public. They are the endpoints for product development crucial to the success of forest restoration and fuels reduction efforts.

Both still need subsidizing, Luna said; but the Mescalero Apache Forest Products Mill has agreed to send more raw material from reservation harvests to SBS, Inc., which has had difficulties finding enough supply to meet current consumer demand.

"When you look at the stocking levels that need to be addressed, EMNRD (Energy, Mineral, and Natural Resources Division) and the BIA are the only two entities making on-the-ground progress. . . . Everybody (EMNRD, BIA, USFS) is not doing the same kind of treatments, but at least we're all doing treatment."

Federal/USFS/BIA

At the federal government level there are many institutional resources and standard or existing programs that can be utilized to support community forestry. At the outset, when working at the community level, it is not always obvious that these resources and programs exist, that they can be focused on the goals and methods of community forestry, and how they can be accessed. While we cannot cover all of the existing opportunities in this area, the ones addressed through the FCSFP will be described. In particular, we are not focusing on Environmental Protection Agency grants, or energy development opportunities in biomass. And we are covering Economic Development Agency resources through a later discussion of Small Business Assistance Centers. While these and other forms of funding and program support are critical to community forestry, it is beyond the scope of this report to enumerate or address them adequately.

Program Resources and Supportive Authorities

When examining the points at which the Forest Service has capacity to support community and forest restoration efforts, a number of resources and authorities are available, including: economic assistance programs; stewardship contracting; the National Fire Plan; and, more recently, the Healthy Forest Restoration Act and the Tribal Forest Restoration Act, all of which have strong capacity to strengthen community forestry.

Community Forestry Program Funding through EAP

The Forest Service framework commonly known as the "Economic Action Programs" (EAP) is actually an umbrella term for programs within the agency that focus technical and financial assistance on revitalizing and sustaining rural communities (this umbrella of programs is described above). The stated goal of this framework, which is based on legislative authority, is to "help America invest its forest-based resources in support of sustainable community development." To support this goal, the strategy encourages Forest Service employees to use their available resources in combination with other programs and agencies to produce a greater result on the ground.

The Forest Service's four main community assistance objectives, as outlined in "Economic Action: Investing in America's Future," produced by the Forest Service in 1993 as part of congressional budget reform measures, are as follows:

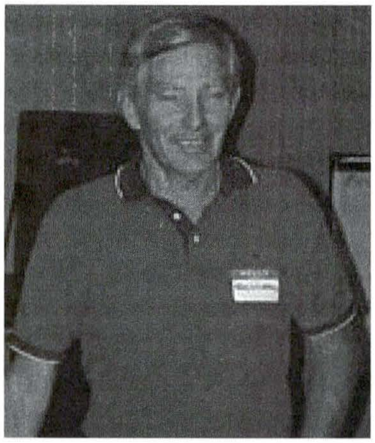
- Strengthen the capacity of rural communities to develop sustainable local economies;
- Diversify the economies of communities;
- Enhance the quality of life in America's communities; and
- Stimulate development of competitive, environmentally responsible forest-based enterprises.

The Forest Service emphasizes partnerships and local solutions in its program implementation and prides itself on shaping available resources to meet local needs. Inherent in the Forest Service's policy and goals is the recognition that state, private, and tribal landowners are now assuming greater responsibility for commodity and amenity resource decisions.

Economic Action Programs Components

"The term 'Economic Action Programs' (EAP), is used in the Forest Service to refer to a collection of programs designed to achieve the goals outlined in their rural development strategy documents. Program components included in this catchall phrase are: Rural Community Assistance (which includes both Rural Development and Economic Recovery programs), Forest Products Conservation and Recycling, and Market Development and Expansion (which includes Wood in Transportation) (excerpted from NASF Economic Action Program: Review of the USFS Economic Action Program Components. 1998. A White Paper. Washington: National Association of State Foresters).

Perhaps the most relevant program under the EAP umbrella is the authority contained in Department of Interior and Related Agencies Appropriation Act of 2001, Public Law 106-



"There's hope for change. There's potential to make it happen. It's a scary thing, too. The whole thing can unravel. That's why the Forest Service writes the contract the way they do. What if there is a change in administration and they say they don't want a 10-year contract. That's part of the difficulty the Forest Service is experiencing. Cancellation of a contract comes right out of their budget. That's their side of the story. They have vulnerability. It's not just that they don't understand the industry; they have their headaches, too."

(Ray Wrobley, SEC, Inc, Sedona, AZ, spring 2004)

291. 10.672, Rural Development, Forestry, and Communities (Rural Development Through Forestry). The objectives of this authorization are "to help rural areas analyze and assess forest resource opportunities, maximize local economic potential through market development and expansion, and diversify communities' economic base" through project grants.

"Funding may be allocated for such things as technical assistance, training and education, equipment, marketing, and all costs associated with making these services available to tribal nations, state and federal agencies, state foresters, local governments, not-for-profit organizations, and others who are extending services to rural communities."

Funds obligated by Congress in recent years have been: Grants—FY 02 $5,445,000; FY 03 est. $4,692,000; and FY 04 est. $6,057,000. Additional funds have been obligated through congressional earmarks to communities associated with the Pacific Northwest Forest Plan, and to other programs such as the Four Corners Sustainable Forests Partnership.

It was in part because some State and Private Forestry leaders envisioned a greater linkage between EAP and rural development through forestry that an on-going debate has ensued through the NASF.

During the FCSFP's implementation, its leadership provided the NASF's Economic Action Committee a proposal to focus EAP on objectives similar to the Four Corner's model, which contained the following outline of "desired results":

- Programs that meet strategically focused needs on a regional basis would typify the desired future state of this model.
- Economic action programs would be recognized as serving as a critical tool for helping resolve natural resource problems on a long-term sustainable basis.
- Sustainability would be based on balancing forest resource needs with community and industry capacity.
- Strategically located demonstration projects would lead to sustainable businesses. Sustainable businesses would lead to the creation of interconnected support businesses.
- The volume of material processed would increase to the point that forest resource needs would be met on a sustainable basis.
- This approach includes identification and evaluation of successes that other regional areas that have similar problems can replicate (Source: Four Corners Sustainable Forests Partnership, Arizona, Colorado, New Mexico and Utah, "Forest Based Economic Action Model," undated).

It is interesting to note that the USDA Forest Service website, which explains the use of "rural assistance through forestry program—10.672—uses the following examples of grants having been made, the majority of which were made through the FCSFP:

Examples of Funded Projects

In fiscal year 1999-2000, Catron County Citizens Group, in New Mexico, developed a forest restoration plan for the Negrito Ecosystem, created a local Economic Development plan, and established a log sort yard and business incubator. New Mexico State University Advanced Manufacturing Center, NM, assisted P&M Signs of Mountainair in the design and construction of prototype equipment for producing juniper/plastic composite materials to be used in construction and sign applications. Painted Sky RC&D, CO, worked with Delta Timber to conduct an economic feasibility test with 4X4-inch width materials for end and edge gluing into wider and longer materials suitable for manufacture of furniture and cabinets. Utah State Rural Development Council, UT, worked with the Southern Utah Forest Products Association to build skills and cooperative marketing strategies for producers of value-added small diameter wood products, as well as to make connections to regional, national, and international markets. Office of Community Services, Fort Lewis College (regional), is developing an evaluation program for Four Corners Partnership projects in forestry in order to describe and assess project outcomes. Washington Department of Natural Resources and the Washington Hardwoods Commission are working to establish policies for conservation of the state's hardwood resources. The secondary wood products industry in Oregon was surveyed to determine what specific types of training were needed to assist in improving industry-worker skills and education, leading to development of curricula later offered by the state's community college system. Overall, 1,500 communities and 1,000 organizations assisted in fiscal year 1997; 2,400 communities and 1,200 organizations assisted in fiscal year 1998; ahnd 2,200 communities and 1,000 organizations assisted in fiscal year 1999.

The FCSFP Demonstration Grants Program has been described as a significant improvement over the USDA Forest Service's Economic Action Program. The demo program improved upon EAP, because "it focused on providing funding in order to diversify rural economies" (Dave Schen, personal interview, Spring 2004). The EAP focused, rather, on natural resources, specifically forestry. The demo program went out to communities at a different level, giving business a more direct line of access to help them.

Traditionally, what little money EAP had was spread thinly among recipients and often used for the so-called "feel good things." EAP funds were

Case in Point

The A-Bar-S stewardship-contracting project being designed during 2004 on the Apache Sitgreaves National Forest is the largest stewardship contracting effort to date. Once established, it will involve harvesting materials 5-9 inches in diameter from 150,000 acres of national forest. Forest Service efforts to design the project to fits the needs and objectives of potential bidders, as well as meet its own goals, have been described as somewhat complex. The agency has revised the contract text in response to feedback from potential contractors. Some of the difficulty has been described as lack of understanding among both the Forest Service and private industry of each other's needs, which entail a range of concerns, including: scale, bonding, and achieving multi-party understanding of stewardship principles. The scale issue has advocates for both large- and small-scale harvesting, depending on the level of interest of individuals involved in a given locality and their ability to organize a project.

That ability is constrained by infrastructure, presence of industry, willingness and preparedness of the Forest Service and local industry, to name a few things. For example, Louisiana Pacific was considering a bid for the A-Bar-S contract, but reportedly has said that 150,000 acres was not enough to support one of its strand-board plants.

As of spring 2004, the Forest Service was requiring a bonding of contractors that few, or none, are capable of, or interested in, supporting. "Retention" has been suggested as an alternative, rather than bonding, which places the burden on the contractor. Retention would allow the Forest Service to retain 10% of contractor payments for liability protection.

"It's a learning process," said Ray Wrobley, with SEC, Inc. in Sedona, AZ. "There's no question the world is changing. It's exciting that we are beginning to see things change."

The requirement of long-term commitment and to the demand for multiple areas of expertise makes stewardship contracting challenging in the minds of many private industry people. Most contractors are single-area experts, highly specialized, and are reluctant to take on responsibility for stewardship activities for which they have little or no experience, and when most of the liability falls on them. Pilots have never received bids because of this.

"You need to be sort of a 'general contractor' to capitalize on stewardship contracting," Wrobley said, echoing others. "People need to see someone go out and take the chance first. If he is successful, or even if he isn't, they might see where it can go and someone might try it themselves."

Case in Point

Stewardship contracting is probably an important opportunity for the Forest Service to play a role in community and forest restoration in the long term. While few substantial examples of stewardship contracting are taking place in association with FCSFP projects, other parts of the country do have a record of accomplishment that can be examined for transferability (see www.thewatershedcenter.org/stewpilot/. For example, the framework for the Siuslaw Basin Rehabilitation Stewardship project, located on the Mapleton Ranger District of the Siuslaw NF offers an example of how stewardship contracting could be approached. Its website lists and describes: Purpose; Goals and Objectives (social, economic, social and administrative); Authorities Being Tested; Accomplishments; Multi-party Monitoring; and a Business Plan. Thirteen projects are described in the website. Most have developed detailed plans that frame activities. What is significant is how specific and traceable the goals and objectives are.

The section Authorities Being Tested offers an environment in which a Forest Service role can be examined and explored. Multi-party Monitoring, while not an authority per se, is another area of participation for which the Forest Service may be best suited to play a role in implementing. The agency may be an important facilitator of multi-party monitoring, which quickly becomes complex and intricate. The sheer number of items that can be monitored is vast, such as those suggested in the Guidebook for Multiparty Monitoring for Sustainable Natural Resource Management (Collaborative Forest Restoration Program Jan. 2004; http://www.fs.fed.us/r3/spf/cfrp/monitoring/).

historically given to local governments, which may or may not have reached businesses that could produce on-the-ground results. In contrast, the FCSFP Demonstration Grants Program sought to help to create jobs through sustainable restoration forestry. Although the goal was to produce more jobs than actually seen to date, the FCSFP program has benefited forest-based businesses and communities by helping to sustain some industry and allowing opportunities to get newly grounded in new industry building activities such as restoration and fire mitigation in the wildland-urban interface (WUI).

Stewardship Contracting and the USDA Forest Service

> "In stewardship contracting I'm continually frustrated. They still don't really understand what it takes for a business to do the kind of work they want done. And the kind of the personal risk ... Nobody that is within an agency ever has to take the personal risk. We help the federal government share the risk with the businesses, the people that we have asked to take on this challenge."
> *(Carla Harper, OCS interview, February 17, 2004).*

Stewardship contract is a relatively new authority in the "toolkit" of restoration and community forestry. After several years of implementation, perspectives vary about its successes and challenges. It was officially authorized by Congress in 2003-04 following five years of pilot testing of the concept. For some, this authority creates innovative opportunity for gaining access to timber on national forest land, as well as a new method and incentive to improve the relationship communities have with forests.

The Forest Service and BLM historically have contracted for services, such as road maintenance and forest thinning. They also contract to sell forest resources such as timber or firewood. Traditionally, these contracts have been carried out separately—service contracts have generally been funded from the agencies' budget, while timber was sold through private purchasers. The Omnibus Consolidated and Emergency Supplemental Appropriations Act of 1999 authorized the Forest Service to combine these contracting mechanisms by entering into "stewardship end results contracts." This allows the agency to use the value of forest products sold to offset the cost of contracted services. Under such "goods-for-services" contracts, the Forest Service may pay for thinning operations by using the proceeds from any commercial timber removed as part of the project (GAO 1999). The full list of authorities follows:

- Goods for services allows the agency to use the value of commercial products, such as timber, to offset the cost of services received, such as thinning, stream improvement, and other activities.
- Designation by description or prescription allows the agency to conduct a timber harvest by providing the contractor with a description of the desired end result of the harvest. For example, the Forest Service might require that all ponderosa pine less than 10 inches in diameter be harvested. Ordinarily, cutting any standing tree before the Forest Service employee has marked or otherwise designated it for cutting is prohibited.
- Multiyear contracting allows the agency to enter into stewardship contracts of up to 10 years in length.
- Retention of receipts allows the agency to retain receipts generated from the sale of commercial products removed through stewardship (GAO 1999, p5).

It was reported during spring of 2004 that 68 of 77 Forest Service pilot projects were operating, generally focusing on removing vegetation. Forest Service staff reported that as of September 2003, nine pilot projects had been completed; i.e., all contracts associated with these projects were completed (GAO 2004, p9). About 13,800 acres had been treated and it was expected about 172,000 more would be treated.

The smallest project was 3.6 acres and the largest 20,000. The mean project size was 2,600 acres. Slightly more than half involved fewer than 1,000 acres, and about 10 percent exceeded 10,000 acres (GAO 2004, p19).

The cited GAO report says that many agency officials believe collaboration enhances project effectiveness and provides other benefits. Project managers cited a variety of benefits from community involvement, including improved project design and implementation, better lines of communication with the public, and enhanced public trust in the agencies. Several said they valued the project monitoring teams' expertise and input, and some noted improvements to their project as a result of team and other community input (GAO 2004, p39).

As many involved people know, stewardship contracting is more than removing a percentage of large timber, or "saw logs," to make it profitable enough to remove the less-valuable, more problematic small-diameter as a service to restoration objectives. It is also more than simply making a supply of timber available to private contractors as a tool to work towards those objectives and the economic objectives of businesses and rural communities. The contracting part, while being difficult to develop in ways that the Forest Service is comfortable with, is where many within the agency seem to feel most comfortable in developing. However, the "stewardship" component is the concept more difficult to innovate. The good thing is that there is a trend towards understanding how stewardship could be shaped, based primarily on the hands-on learning taking place through community-based efforts to evolve a new practice of stewardship of forests and communities.

Eight of the original 28 stewardship contracting pilot projects granted to the U.S. Forest Service (USFS) in 1999 are located throughout the Four Corners states. New contracting authorities that the USFS was asked to test include:

- The exchange of good for services
- The retention of receipts
- The awarding of contracts based on a "best value" basis
- The designation of timber for cutting by prescription or description
- Multi-year contracts

The expressed intent of the stewardship contracting pilot program was: 1) to help achieve land management goals on the national forests, and 2) to help meet the needs of local and rural communities. As such, communities and forest partnerships throughout the Four Corners have optimistically watched and often participated with the evolution of both the respective pilot projects and stewardship contracting program as a whole.

One of these pilots, the Grand Canyon Stewardship Project, more commonly known as the Greater Flagstaff Forests Partnership (GFFP), is located on the Coconino NF in northern Arizona. Various stewardship contracting authorities, often in concert with National Fire Plan initiatives and funding, have been utilized to restore the ponderosa pine forest ecosystem and reduce the threat of catastrophic wildfire in the Flagstaff Wildland/Urban Interface. Learning the intricacies of stewardship contracting—an amalgam of both traditional timber contracting and common service contracting, for services such as road maintenance, forest thinning or other activities—has rarely been a smooth process for the pilot projects. The GFFP, with its strong community collaboration and elaborate long-term strategy for working in the Flagstaff WUI, has been successful in testing and implementing the majority of stewardship contracting authorities. While certainly not a seamless progression, with guidance by both agency and public participants knowledgeable about stewardship contracting regulations, intent and available authorities, the GFFP has steadily used these new tools to effectively pursue its goals.

Nearly all the pilot locations, including the GFFP, have struggled to learn the proper use of and benefits from stewardship contract authorities. One of the most glaring challenges faced by the program has been the ongoing inability of agency contracting officers to reconcile the distinct timber and service contracting mechanisms. This gap was overcome in Flagstaff with diligent communication between the timber and service contract staff, which often do not interact in normal FS operations, and guidance from the few stewardship contracting specialists within the agency. It was, however, the non-profit GFFP that created the first stewardship contract in Flagstaff and was often responsible for encouraging and guiding the FS to follow suit in subsequent Partnership projects.

Indeed, this lack of internal agency guidance, especially on the contracting particulars for procurement and service contracts, has been a consistent nationwide dilemma, sometimes to the point of scuttling otherwise legitimate projects. In recent years, the FS, responding to repeated requests, has proactively begun to provide the necessary direction to placate contracting officers. The agency and other organizations involved in stewardship contracting are also now providing trainings and tools so that local initiative in project planning and decision-making on contract particulars can effectively proceed.

As the Flagstaff experience suggests, local capacity has often been critical for the success of many of the original pilot projects. Community collaboration is an expressed intent of the program. Without consistent and ongoing community engagement the ultimate value of stewardship contracting for practitioners—increased opportunity for work in the woods—can not be realized. The FS, while mandated through NEPA and other regulations to communicate and even cooperate with the public, has, in many locations, not yet developed the understanding or skills to effectively collaborate. Collaboration and the development of trusting personal and organizational relationships take time to cultivate. If stewardship contracting is to reach its full potential--achieving land management goals on the national forests while also meeting the needs of local and rural communities--all partners, particularly the FS, which has lost much of the public's confidence, must consistently pursue community collaboration. The agency, due to a recently-released GAO report critical of the FS for a lack of community involvement in stewardship contracting projects, is seeking to provide more internal guidance on community participation and collaboration.

In 2003, stewardship contracting authority, with some changes to the initial direction of the pilot program, was extended nationwide to both the FS and Bureau of Land Management. Members of the Southwest Stewardship Contracting Regional Evaluation Team, one of numerous nation-wide monitoring teams charged with assessing the progress of the initial pilot program, had mixed feelings about this development. The new tool to meet the needs of rural communities and more efficiently implement land management projects was welcome. On the other hand, the team also realized that the monitoring results of the pilot round had not yet been fully analyzed and reported back to congress before blanket authority was granted. This rightfully concerned many monitoring team participants as well as others throughout the country intently watching stewardship contracting develop.

With stewardship contracting having both devout critics and impassioned supporters, members of the Southwest Regional Monitoring Team realized that a definitive assessment could certainly not yet be made. The short duration of the pilot program and the fact that the regional monitoring teams are being disbanded in late 2004 led to an incomplete evaluation. Administrative and implementation trends of utilizing stewardship contracting authorities, some of which are listed here, have been recognized and are being addressed. Nevertheless, the unfinished analysis might suggest two very different perspectives about the current state of the stewardship contract program: some might see the new authorities as an end, themselves, and simply having them in the proverbial toolbox is good enough; practitioners and forest-dependent communities recognize something completely different—stewardship contracting is a means to community stability—and not agree at all that stewardship projects, as they are currently being proposed and even implemented, are any more valuable than the Forest Service's traditional timber sales and other ways of doing business. Consequently, the ultimate effectiveness and utilization of stewardship contracting—on the ground—has yet to come into focus.

Monroe Mountain Ecosystem Restoration Project—A Case Study

By Brian Cottam

The Monroe Mountain Ecosystem Restoration Project (MMERP) is located on Monroe Mountain on the Fishlake National Forest, Richfield Ranger District. Part of central Utah's high plateau backbone, Monroe Mountain rises above the alfalfa-sowed valley floors to be seen from miles in every direction. The approximately 50,000 acre project area, ranging in elevation from 8,800 feet on the western boundary to just over 11,000 feet at the north end's Monument Peak, overlooks rural Sevier and Piute Counties in south-central Utah.

MMERP was a result of a 1995 Forest Service area analysis documenting that the mountain's ecosystems were not in a desirable condition as described in the Fishlake Forest Plan. In 1997, the Fishlake began planning for Monroe Mountain, identified by the Forest as a priority area for ecosystem restoration. Specific objectives for the project include aspen and grassland ecosystem abundance restoration (vast tracts of aspen forest—now rapidly diminishing—have been a defining component of Monroe's varied ecosystems); improve watershed and riparian conditions (numerous waterways provide for the small communities surrounding the entire plateau); reduce wildfire, insect and disease risk (the major portion of the 1,330 acre Oldroyd Fire in July 2000 was within the boundaries of MMERP treatment areas, while epidemic outbreaks of spruce beetle are a growing threat to the Forest), and provide work and wood products for local communities and businesses. This last objective was a direct result of MMERP being selected as one of the original 28 pilot projects for new stewardship contracting authorities.

The project team, under the leadership of Don Okerlund, has taken their responsibility for public involvement within the stewardship contracting process seriously. Beginning in 1997 and continuing through today several field tours and public meetings have been provided. These gatherings have been beneficial in helping local communities and potential project partners better understand stewardship contracting, the differences from traditional contract methods, and how the new authorities will be utilized in this project.

With public outreach and participation well underway, the Forest issued the Notice of Intent to prepare an EIS in early 1999. The Draft EIS was released in September 1999 with the Final EIS coming in June 2000. Numerous changes, particularly in regards to the ultimate size of the treatment areas (thinning and sagebrush treatments specifically), were made during this time due to public input and the uncertainty of inventoried roadless areas found throughout the project area. Public participation from local interests remained active, though, even as the potential treatment areas continuously dwindled in the face of constant pressure from supporters of no management.

Former Fishlake Forest Supervisor Rob Mrowka, an advocate for and strong believer in community collaboration (see Thousand Lake Community Forestry Initiative sidebar) and the potential for stewardship contracting, signed the Record of Decision to proceed with the project in December 2000. Local businesses potentially interested in bidding on the contract believed that, after five years since initial analysis and three since public discussion began, restoration work would begin on Monroe Mountain in the summer of 2001.

Community groups such as the Southern Utah Forest Products Association (SUFPA) and nearby sawmills including Escalante's Utah Forest Products and Stoltze Aspen Mill in Sigurd--at the northern base of Monroe Mountain--were excited about the prospects of implementing the project after years of collaboration with the agency through the stewardship contracting process. The proposed multi-phase MMERP would be one means for providing raw material stability and long-term work—including conifer and aspen thinning and removal, sagebrush treatments, fence construction, road improvements and decommissioning, and tree planting—for woods workers and the remaining few sawmills in south-central Utah. Combined with the potential for the Thousand Lake Initiative and other, more traditional, Forest Service projects, the outlook was cautiously optimistic.

It's now June 2004, three years since this high point of optimism. SUFPA is simply a shell of its former self and currently in the process of dissolving (see related sidebar), Utah Forest Products no longer exists, though Skyline Forest Resources has taken its place in Escalante, and Stoltze Aspen Mill, specifically designed to assist in the utilization of Utah aspen, could no longer wait for raw material and shut down in late 2001. MMERP has undergone three appeals by the Utah Environmental Congress in Salt Lake City, the current iteration to the 10th Circuit Court of Appeals, one misguided attempt at contracting the project in the summer of 2003 in which no bidders were found, and the loss of much of Utah's sawmill capacity in the interim, and implementation has not yet begun.

After the second appeal and motion for stay at the District Court level was denied--to be immediately followed by the appeal to the Circuit Court--the Fishlake positively worked with remaining potential project bidders to ensure the service elements of the contract would be more understandable and that the restoration project would be economically feasible. While still awaiting the decision of the Circuit Court, the Fishlake re-released the MMERP solicitation, hoping to award the contract, receive another favorable decision from the courts, and begin implementing the project this summer. In a sadly ironic twist, the very day before the bidder's informational meeting and field tour on June 24th, the Circuit Court ruled against the Fishlake and sent the case back to the District Court. Don Okerlund received word the morning of the bidder's meeting.

MMERP appeal issues have always centered on roadless and Management Indicator Species (MIS) and in this instance the District Court overruled the Circuit Court's interpretation of Fishlake and MMERP MIS. The Forest must now provide the quantitative MIS data deemed to be lacking in the EIS and required by the Fishlake Forest Plan before the project can proceed. Along with Utah interests, operators had come from as far as Colorado for the June 24th bidder's meeting. They went home that morning experiencing the frustration so many connected to MMERP over the years have continually felt as this project has endured fits and starts.

Okerlund, as he has steadfastly done since the late 90s, ensured those attending the bidder's meeting that the project would proceed once the Forest provides the necessary MIS data. But as one of the few original stewardship contracting pilot projects to not yet arrive at implementation, there is creeping doubt, among all partners, that the restoration work will ever occur. There are many possible reasons MMERP is continuously stalled: faulty Forest Service planning and documentation; no-management activist strategies that have targeted MMERP; lengthy terms between court decisions; even partners' dwindling active participation and dissolving vocal support for the project, leaving the agency to defend the project on their own, is a legitimate culprit. Whatever the reasons, and they are multiple, the promises of stewardship contracting, so apparent and possible in other locations throughout the Four Corners region, has yet to be experienced in Utah.

"The policy formation role needs to be played at the local level. We think because it is federal funding, we ought to have influence there, but perhaps we should focus on the local level and then let that bubble up. It's a much, smaller, easier rock to push around, and you end up developing relationships with county commissioners, and town councils and those type of people, and you honor their role that way."

(Bob Dettmann,March 2004)

The National Fire Plan

"The Secretaries should also work with the Governors on a long-term strategy to deal with the wildland fire and hazardous fuels situation, as well as the needs for habitat restoration and rehabilitation in the Nation. The managers expect that a collaborative structure, with the States and local governments as full partners, will be the most efficient and effective way of implementing a long-term program.

The managers are very concerned that the agencies need to work closely with the affected States, including Governors, county official, and other citizens. Successful implementation of this program will require close collaboration among citizens and governments at all levels... The managers direct the Secretaries to engage Governors in a collaborative structure to cooperatively develop a coordinated, National ten-year comprehensive strategy with the States as full partners in the planning, decision-making, and implementation of the plan. Key decisions should be made at local levels"

(Conference Report for the Fiscal Year 2001 Interior and Related Agencies Appropriations Act [Public Law 106-291]).

The National Fire Plan helped us focus our conversations. It took us out of the esoteric realm of restoration to what are the needs of this community. First and foremost, it is to protect it from catastrophic wildfire. . . . The National Fire Plan helped us actually do it.

(Brain Cottam, former coordinator Greater Flagstaff Forest Partnership, March 2004)

The appeal of the National Fire Plan, officially outlined in the "10-Year Comprehensive Strategy Implementation Plan," is how effective a tool it has been in implementing on-the-ground projects in the wildland-urban interface where fire risks threaten property and lives. Few other congressional laws have been so successful at getting funding to local areas where a network of local, state, and federal institutions, academic researchers, and commercial industry businesses were organizationally prepared to take advantage of the boost NFP funding offered.

One driving force was the requirement of collaboration across jurisdictional boundaries. Two key Congressional directives that: "The Secretaries of the Interior and Agriculture and the Governors jointly develop a long-term national strategy to address the wildland fire and hazardous fuels situation and the needs for habitat restoration and rehabilitation; and The strategy should be developed with " 'close collaboration among citizens and governments at all levels.'" The Four Corners Sustainable Forests Partnership was in an excellent position to capitalize on this authoritative guidance, because so much of the collaborative infrastructure needed to achieve it was already activated in the region where a history of collaborative interaction already existed; not only through the FCSFP, but through local and regional efforts that preceded the FCSFP.

Also making so much possible was the fact that the implementation strategy was endorsed by major agencies and institutions, including: Departments of Agriculture and Interior, Western Governors' Association, National Association of State Foresters, National Association of Counties, and the Intertribal Timber Council. These key factors demonstrate a powerful model for future successes and for identifying what works in the organizational development of large-scale social, economic, and ecological efforts such as community-forestry.

Healthy Forests Initiative

The Healthy Forest Restoration Act (HR 1904, H. Rpt. 108-386, PL 108-148), signed into law Dec. 3, 2003, calls for two provisions important to communities and businesses: local collaboration through the development of community wildfire protection plans, and multiparty monitoring. Multiparty monitoring processes measure not only ecological, but also, social and economic effects, and include different stakeholders. The intention of the Healthy Forest Restoration Act (HFRA), informally known as the Healthy Forests Initiative, is to reduce wildfire risks by reducing threats in wildfire-prone areas. Currently, no funding is available; however, the "potential" is offered. This gives some resources to pay for thinning costs. The act also carries a mandate, more or less, for community collaboration, which will increase the need for partnerships and increased community capacities.

Informants say that it is too early to tell if HFRA will benefit community forestry. If the community assistance piece is ever funded, it could be an important part of the picture. It authorizes $760 million annually to clear fire fuels from 20 million acres of federal forest lands. It restricts environmental analysis, administrative appeals and lawsuits in order to speed approval of projects to remove dead and dying trees, brush and debris that could fuel catastrophic wildfires.

The administration on March 3, 2004 issued an "Interim Field Guide for Implementing the Healthy Forests Initiative and Healthy Forests Restoration Act," announcing that hazardous fuels removal projects would qualify more quickly under the National Environmental Policy Act if they occurred: near at-risk communities in the wildland-urban interface; in high-risk municipal watersheds; in areas that provided habitat for threatened and endangered species; or in areas that were susceptible to insect infestation or disease epidemics.

Policy Development

> "We appreciate the "best value contracting" provisions in stewardship contracting, which allow the agencies to consider factors other than low bid. Being a local business with a good record of quality performance would give us a better chance at winning a project. As it stands, timber sales are awarded to the high bid and service contracts are awarded to the lowest bid."
>
> *(Cassandra Doyon, Testimony to Ccongressional sub-committee, 2/04/04)*

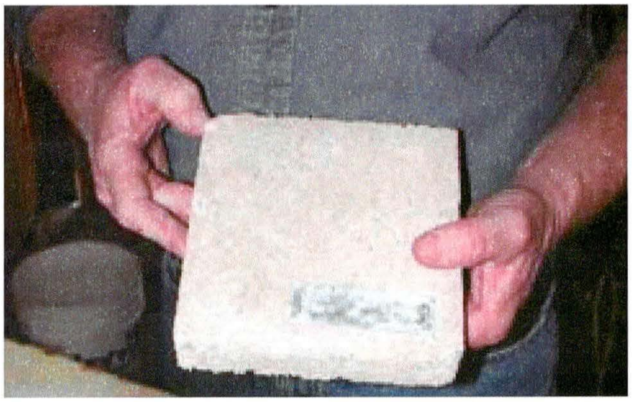
There is often a question about how much investment community-based forestry partnerships should make in advocating or forming land management policies. Should they defer this role to other groups, such as the National Network of Forest Practitioners, the Society of American Foresters, the Communities Committee of the Seventh American Forest Congress, the National

Association of State Foresters, or others? With a network as large as the Four Corners Sustainable Forests Partnership was formed, the sheer multiplicity of partners, and jurisdictions makes this a difficult question to answer. Can many types of partners find a common message and speak with one voice? Not as easily as one might think.

"The policy formation role needs to be played at the local level. We think because it is federal funding, we ought to have influence there, but perhaps we should focus on the local level and then let that bubble up. It's a much, smaller, easier rock to push around, and you end up developing relationships with county commissioners, and town councils and those type of people, and you honor their role that way" (Bob Dettmann, OCS Interview, March 16, 2004).

The FCSFP did not often take a formal role as single entity in recommending national policy changes. As Kim Kostelnik has said, "We were effective by giving communities the skills and they can do policy on their own." Indeed, some testimony to congressional committees and staff was given by grantees, and issues were addressed through the National Associated of State Foresters by suggesting a general framework for integrating community forestry and rural development. Within some jurisdictions, for example in the state of Arizona, the Arizona Sustainable Forests Partnership has been active in working with the Governor's Forest Health/Fire Plan Advisory Committee on a range of healthy forest and wildfire issues.

The FCSFP has not taken policy positions purposely. However, the demonstration grants program of the FCSFP created numerous initiatives and projects, the results of which could be utilize by a variety of policy developers in their decision-making strategies. The FCSFP state coordinators and steering committee provided a means for communicating lessons learned to policy and leadership audiences. To assist with this communication process a number of annual and periodic newsletters and reports were prepared, including a summary report known internally as the Transition Plan, entitled *The Four Corners Sustainable Forests Partnership: A Summary of Lessons Learned and Recommendations for Strengthening Partnerships and Building Capacity in Communities 1999-2003.* (2003, Office of Community Services, Fort Lewis College). In essence the FCSFP became involved in policy formation primarily through active demonstration of working projects in community forestry, sharing successful innovations in ecological stewardship and rural economic development.



"Chipcrete" currently being developed by Gordon West at Gila WoodNet and Santa Clara Woodworks with assistance from the Forest Products Lab.

USDA Forest Products Laboratory

Since the early days of the partnership, a number of FCSFP, partners have sought resources at the USDA Forest Products Laboratory in Madison, Wisconsin for getting ideas and for developing products. Probably the first instance of this was when Tim Reader and members of the Madera Wood Products Cooperative in Vallecitos, New Mexico discovered files in the Lab's voluminous database describing products that potentially could be applicable in their project. Tim Reader, who was contracted through the Colorado State Forest Service to provide regional technical assistance to recipients of funding through the Demonstration Grants Program, found a paper describing a long-forgotten, simple dip-diffusion process for treating timber. He thought it might work for post and poles made from small-diameter. It might add value to small diameter that would be affordable and could be achieved locally and hands-on.

The dip diffusion wood treatment effort, which eventually saw little advancement due to EPA rules, was an outshoot of Reader simply searching product development stories from the past on the Forest Products Lab database. "There are hundreds of other product stories archived in the files, but no one is searching them to find any that might fit today's needs," Reader said.

Load-bearing strength testing of construction quality timber has been a common interface between Lab researchers and Demonstration Grant Program recipients. The process seems to be slow and results have not been conclusive, but an atmosphere of entrepreneurship is strong and those involved continue to test new ideas and products.

Another potential improvement is the use of log sort yards as a method for better managing smaller logs. From a presentation by Susan LeVan-Green and Rusty Dramm of the Forest Products Lab, it is shown that log sort yards can be instrumental in accomplishing the following objectives:

- Concentrate merchandise, and sort logs for higher value
- Market multiple log products
- May include some log products and value-added operations
- Supply a more desirable log mix to wood using firms

In addition to explaining the fundamental concepts of log-sort yards, Forest Lab Staff have the capability of assisting in the practical and efficient lay-out of a yard to reduce costs of operations for scaling and grading.

While the USFS Forest Products is an outstanding source of technical and economic information, new product ideas, and assistance with operational transformation to utilize small diameter materials, there is always the challenge of accessing these resources by a small business or partnership in a distant part of the country. This has been overcome to a degree by coordinating and communicating through a larger regional partnership, the FCSFP, in order to host technical assistance events, such as the workshop on sawmill conversions being conducted in late 2004 by Tim Reader and Rusty Dramm.

Another challenge has been the retiring of lab employees with experience and institutional memory. If there were morefinancial resources available for technical assistance, then people like Tim Reader at the Colorado Wood Utilization and Marketing Center, or Gordon West at Gila WoodNet in Silver City, New Mexico, could contract with retirees from the Lab to continue working with the efforts. One such retiree, George Harpole, relocated to the Westslope of Colorado and has been providing assistance to FCSFP partners. A concerted effort to share new harvesting methodologies, obtaining a variety of products from smaller diameter logs in an integrated manner, and applying new technologies to product development would be of significant assistance to community forestry in the Four Corners region. Within this regional framework, the USFS Products Lab could maximize its technical assistance role by linking with stewardship projects, groups of small wood products businesses, state forestry organizations, and other entrepreneurial assistance entities, such as the Department of Energy's Industries of the Future (IOF) initiatives. All four of the states involved in the FCSFP, Arizona, Colorado, New Mexico, and Utah have IOF programs, most often located in

A test batch of logs in a dip-diffusion trough soaking in a chemical bath of boric acid in Vallecitos, New Mexico. The idea came from browsing the Forest Products Lab database during the Four Corners Sustainable Forests Partnership first year.

the governor's energy program of each state. (See national website: http://www.oit.doe.gov/industries.shtml.)

USFS Research Stations

The Research and Development Program of the US Forest Service has more than 1000 employees. Many of these persons work throughout the United States through a series of research stations; for example, the Pacific Northwest, the North Central, and Southern Research Stations. While these centers have their own special research programs, some of which have national goals and objectives, they also focus many of their resources on the forest resource and management issues within the region surrounding their location. The stations have their own employed staff and also work with cooperators through agreements to undertake research on specific topics such as insects and disease, ecological health improvement, fire behavior, marketing and utilization, among many others. Within the region of the Four Corners Sustainable Forest Partnership, the primary entity is the Rocky Mountain Research Station (RMRS, with its main headquarters in Fort Collins, Colorado, and sub-units at Flagstaff, Arizona and Albuquerque, New Mexico.)

While the examples in the table on the next page illustrate the kinds of research activity that are and can be of assistance to community forestry, it often is the case that this work is not well communicated. The work at the USFS research stations is not exempted from the problem of disseminating relevant research findings to practitioners. In the area of community forestry this can be a very serious concern when linkages and networks are not created within either the organization or among local practitioners. Some success was achieved among cooperators and staff of the Rock Mountain Research Station, forestry faculty and students at Northern Arizona University, through on-going research and monitoring activities with the Greater Flagstaff Forest Partnership (GFFP). Numerous opportunities were created through research funding by the Research Station, the availability of research staff, the proximity of restoration demonstration projects on the Coconino National Forest, and significant local partnership capacity through the GFFP to coordinate applied research efforts. A detailed listing of these efforts is available through the GFFP at http://www.GFFP.org.

Even where physical proximity to US Forest Service Research Station offices is reasonably close, there is a need for researchers to reach out to community forestry projects to make applied research available. Such an effort could assist in developing a well-grounded research program, and enhance the dissemination component of many of the station programs. Opportunities for a stronger partnership between community forest practitioners and applied researchers exist in the areas of alternative restoration prescriptions, wildfire mitigation and post-fire effects, and the economics of ecosystem improvement. It would not be unreasonable to consider a USDA national initiative in community forestry research, undertaken under a participatory research framework.

Recent work by Drs. Dennis Becker, Debra Larsen and others is an example of Research Station work that holds considerable promise for assisting community forestry projects in appropriately estimating costs of wood fiber production, and thereby generating more feasible and sustainable economic enterprises. The Becker, et al estimator, which focuses on Southwest Ponderosa Pine, is based on a series of cost and revenue models that allow the user to input their information for labor costs, types of machinery used, hauling distances, depreciation, insurance, profit, and a variety of potential products and markets. The user starts with inputting in depth information about the acres to be harvested or treated, log volumes and sizes, and the efficiencies to which these materials can be processed into specific products. Their work will appear in a forthcoming publication from the Pacific Northwest Research Station, GTR-623.

The USFS Research and Development Programs, in particular through its research stations, offer an array of resources to assist with studies of silvicultural conditions, disease risk, post-fire effects, fuel treatment methods, and ecosystem restoration. The Rocky Mountain Station through it Flagstaff unit, for instance, is working on numerous projects, including those listed below.

Agreement No.	Title	Cooperator	PI	End Date
RMRS98126JV	Opportunities For Funding Wildland-Urban Interface Fuels Reduction Programs	NAU	Larson/ Mirth	08/05/03
RMRS98159JV	A Cost Analysis Of Wildland-Urban Interface Forest Management Treatments In The Southwestern Ponderosa Pine Type	NAU	Fox, Daugherty	04/30/02
RMRS98180JV	Vegetation Response To Restoration And Prescribed Burning Treatments In Southeastern Arizona And Southwestern New Mexico	Malpai Borderlands Group	Miller	06/30/03
RMRS99094JV	Using Group Selection, Multi-Aged Management Practices To Enhance The Use Of Prescribed Fire In The Southwest	NAU	Bailey	05/30/04
RMRS99158JV	Fire In The Wildland-Urban Interface: A Landscape Modeling Approach	NAU	Fule	12/31/02
00-JV-11221615-108	Vegetation Response to Fire and Fires Surrogate Treatments in the Jemez Mtns, NM	Stephen F. Austin State University	Oswald	05/22/05
01-JV-11221615-233	Inventory and Classification of Wildfire Occurrence in Treated versus Untreated Forest Stands on Southwestern National Forests	New Mexico State University	Fernald/ Fowler	01/31/05
02-JV-11221615-039	A Research Agenda For Understanding Behavioral And Economic Responses To Forest Restoration Programs In The Southwest	University Of New Mexico	Berrens/ McKee	06/30/04
03-JV-11221615-153	Relation of Stand Structure and Fire Effects on the Rodeo-Chediski Fire	NAU	Fule	05/31/06
03-JV-11221615-290	Effects and Interactions of Mechanical Treatments and Fire on Forest Vegetation Dynamics	NAU	Bailey	09/30/06
03-IA-11221615-309	Monitoring Vegetation Response To Restoration And Prescribed Burning Treatments In Southeastern Arizona And Southwestern New Mexico	Malpai Borderlands Group	McDonald	10/30/04
04-MU-11221615-147	Forest Ecosystem Restoration and Fuels Management in the Greater Flagstaff, Arizona Region	Greater Flagstaff Forests Partnership	Kolb, Gatewood	03/01/09

PART TWO: Capacity Building

Implementation ● Community Support ● Timber Products Industry
Project Strengths ● Action Strategies

Because relationships are so strained, it's going to take time, possibly even years, to simply learn how to communicate effectively, work together in a productive manner, and build the trust necessary to actually put something on the ground, which is where people really get hesitant. If we can all begin to understand this in advance, and realize there will be this period of communication and trust building before we can really start to break barriers down and eliminate positions and address the needs of the partners, I think we can be much more successful in our collaborative efforts.

(Brian Cottam, former coordinator of the Greater Flagstaff Forest Partnership, interviewed March, 2004)

In this part of the report, we identify and describe a set of capacities or attributes that create success in action or implementation. Previously, we have inventoried the "supportive" factors needed to encourage, enhance, reinforce, or sustain community forestry (CF). Now the focus will be on ingredients of community forestry on the ground--in communities and in the woods. While speaking of these as action attributes, or implementation factors, there is an obvious tie back to the support system, because the discussion up until now has been about the necessary infusion of resources to establish a sustainable community-based stewardship program.

For many years, the action components of CF have been generally divided into three areas. Toby Martinez, the New Mexico State Forester at the time of the development of the FCSFP, and one its strongest advocates, called this "the three legged tool." In essence, there is fairly wide agreement that the three basic components to community based forestry are: social, or community; economic; and ecological.

Furthermore, there is a belief that these three "capacities" need to exist in some sort of relative balance; in other words, they need to be integrated. If the balance or integration does not exist and one of the elements is over-weighted or out of balance, then it can operate to the detriment of the other two components. For instance, if the economy becomes a very high, or perhaps excessive, priority, then gaining employment or industrial development might be pursued to such an extent as to neglect sustainable ecological or ecosystem goals. Conversely, if ecological goals are pursued to the neglect of economic feasibility, then getting the actual work accomplished will many times, if not always, be prevented. And finally, it is the social, or communal, partnerships and relationships that are needed with an appropriate degree of cooperation to guide the economic-ecological integration process. If the social becomes too dominant, the work on the ground could suffer from endless conversation. If it becomes too weak, leadership is not available, nor is social diversity, advocacy, and accountability to community values and visions.

So, the key among the three major components of CF—community, economy, and ecology--is that they be constructed and sustained in some degree of appropriate equilibrium and integration. Constructing these cooperative or collaborative systems within specific regional or geographic areas is extremely challenging. The history of relationships, cultural values, and recent events all play a role in creating opportunities and barriers to success. Both aid and diminish the balance and integration of the three components at various stages of capacity building. Therefore, there is no single answer or road map for successful implementation of CF. Rather, there are basic attributes and principles that must be developed and followed within the relative constraints and assets of a given setting. This requires a great deal of interpretation, assessment, knowledge sharing, learning, and working with "creative tension," all the while keeping an eye on accomplishing feasible and sustainable work.

Figure 4

Capacity Building

Implementation • Community Support • Timber Products Industry • Project Strengths • Action Strategies

COMMUNITY/ORGANIZATIONAL

IMPLEMENTATION

PARTNERSHIPS

Collaboration
Communication & Networking
Accountability
Multi-Party Monitoring
Cultural & Tribal Heritage

SMALL BUSINESS

Business Entrepreneurship
Marketing
Utilization
Mill Conversions
Labor Force Development
New Technology
Product Development

FOREST RESTORATION

Public Support
Restoration Ecology
Wildfire Mitigation
Adaptive Management

THEME I: Social, or Communal

This first component includes the organizational, collaborative, and communication capacities needed to guide and integrate a community forestry stewardship effort.

Partnerships

One of the primary themes of community forestry is its basis in some form of locally governed partnership viewed as a formal or semi-formal organization. The organizational nature of these partnerships is quite variable, often reflecting the character and available resources of the community or the history of natural resource utilization and related events in the area. For instance, if the community is quite small and isolated, the members might be individuals who simply have an interest in the community's future or well being, who represent its heritage and traditions, and whose interests might lean towards traditional or indigenous uses of wood products. An example of this type of partnership might be Las Humanas, which is rooted in the Hispanic Land Grants in Manzano Mountains of central New Mexico. Here, the ambition in communities is to renew historical land use ties through partnership with the US Forest Service and local state parks as they work to create new jobs through a thinning and restoration business development and educate the residents and young people about the future possibilities.

Another example is the Catron County Citizens Group (CCCG) in west-central New Mexico. Its roots go back to the significant conflicts between county government and the Gila National Forest over who would control the uses of the federal forest lands. When the conflict began to affect the social balance and health of the community, a partnership was energized by a local doctor and a church minister. In time county officials, USFS, and business representatives joined the partnership. But even to this day, the CCCG operates through open, public, monthly meetings, maintains an interest in youth development through operating a Youth Conservation Corps, and stresses local employment and training of wood workers over seeking high levels of timber volumes.

In northern Arizona, the Greater Flagstaff Forests Partnership was initiated in part as a result of wildfires in the wildland-urban interface. Because primary leadership came initially from the Grand Canyon Trust, a land conservation organization, and the Forestry School of the University of Northern Arizona, much of the work of the partnership is oriented towards demonstrating and testing a wide variety of restoration prescriptions. A recent update from the GFFP in part reads: "The Partnership is committed to researching and monitoring the key ecological, economic, and social impacts and issues associated with landscape-scale restoration. The Partnership's first 10,000-acre project at Fort Valley includes a $500,000 ecosystem research budget and over 20 on-going studies."

This strong of a commitment to restoration demonstration and monitoring can best occur in an environment where those scientific and research resources are available.

Other coalitions and partnerships, such as ones in Ruidoso and Silver City, New Mexico, Torrey, Utah, or eastern Arizona, reflect interests and capabilities in wildfire mitigation, or wood products manufacturing, or using advanced technology in forest thinning and restoration. The primary orientation of each community or partnership can vary considerably, often depending on recent relations with adjacent public lands, whether a sawmill has closed in the past decade, when the last wildfire threatened the region, or the evolution of the community away from an economy linked to forest product utilization. The differences can affect the nature and progress of community forestry to a degree, but what matters most is that there is an organized voice capable of speaking in a trustworthy way about the values and beliefs of the surrounding community.

A trusted community coalition that can speak clearly about the social, economic, and ecological values and visions of a given place or extended landscape offers many important factors: support for forest restoration, advice on an acceptable levels of economic revitalization, advocacy for wildfire mitigation and fuel treatment projects, and a mediating political forum to appropriately balance conservation and resource management goals and methods. It matters less that there is a variety of partnerships or that they differ in composition and structure. They can be made up of agencies and organizations, individual community members, or elected officials non-profits, or small businesses. These differences may merely reflect the nature of the community, its rate of urbanization or social change, or the state of the local ecosystem. What matters most is a long-term commitment to land stewardship and the capacity to actively engage the needed resources in this endeavor.

The Southern Utah Forest Products Association: A Case Study

An Argument for Greater Attention to Organizational Sustainability

*By Brian Cotta*m

As a wood products cooperative of third and fourth generation forest and wood workers, the Southern Utah Forest Products Association (SUFPA) became an important local industry resource and recognized symbol for sustainable, community-based forestry in Utah and beyond. Centered in Wayne County in south-central Utah, SUFPA sought to pioneer and develop new techniques and strategies for accessing restoration work and timber supply in surrounding national forests. To complement this effort, the cooperative also worked to identify new market opportunities for low-value forest restoration byproducts and value-added finished wood products.

Traditional agricultural industries, including forestry, formed the economic backbone of the many small communities that have persisted in Wayne and neighboring Garfield County. However, when confronted with many of the same challenges the FCSFP was created to address, several of the once-numerous small, family-owned sawmills were idled, and loggers, unable to compete for increasingly larger and, thereby, more expensive U.S. Forest Service (FS) timber sales, were forced to find other work elsewhere. In 1995, the remaining loggers and sawmill operators in this area were successfully convened by Panoramaland RC&D and the Utah Department of Community and Economic Development. They all met to jointly consider the mounting challenges that were effectively eliminating this long-standing, local industry. SUFPA, from its inception, focused on two prevailing notions. First, local operators were increasingly unable to compete for FS timber sales; typically, the volume was too large and the minimum bid price too high. Second, timber produced from this region—traditionally milled into mining supports for nearby coal mines—was of low and diminishing value.

With government and private sector partners, the loose-knit association began to analyze potential new value-added market opportunities. Their findings identified several emerging markets for the wood types available in the surrounding forests (principally Engelman spruce, sub-alpine fir, quaking aspen, and a very limited amount of ponderosa pine). Unfortunately, the scale of the identified markets was significantly larger than any one operator could serve. Furthermore, meeting the requirements for these markets required a commitment of capital resources and technical expertise greater than any one operator could likely access, particularly with uncertain supply scenarios being the norm.

Throughout the mid to late 1990s, members of SUFPA met several times to consider a realistic response to the opportunities identified in their initial research and to outline a broad set of strategies and organizational principles. From this, an eloquent statement of purpose, mission statement and well-defined association goals and objectives were developed. With the consistent support of its partners, SUFPA created the Southern Utah Forest Products Resource Center as an integral part of the cooperative effort. The Resource Center, among other activities, provided the staffing and technical assistance necessary for SUFPA businesses to access both a sustainable supply of timber and successfully negotiate nontraditional, higher value markets.

SUFPA was formally incorporated as an agricultural cooperative in late 1998. In 1999, the FCSFP, through their first round of community demonstration grants, allowed the cooperative to hire its first executive director, whose focus it was to effectively build the organizational capacity of the co-op. A complementary graduate thesis provided the organizational blueprint necessary to pursue SUFPA's groundbreaking path as a forest products cooperative. SUFPA was unique from other forestry co-ops scattered throughout the country in which members owned their own woodlands and, thereby, their raw material. SUFPA, in contrast, was comprised of a fully integrated sampling of southern Utah's community forestry industry—from logger to wood craftspeople—focusing primarily on raw material and service work from nearby national forest lands.

SUFPA was positioned to successfully address its two major concerns of raw material supply and the creation and marketing of value-added wood products. Discussions were on-going with both the Dixie and Fishlake NFs concerning sustainable, appropriately-scaled access to and projects in surrounding forests. Before long, planning for possible forest restoration and stewardship contracts, which were just then coming into vogue, also began to occur. The Fishlake NF particularly responded with the Monroe Mountain Ecosystem Restoration Project (one of the original 28 stewardship contract pilot projects) and the Thousand Lake Community Forestry Initiative, especially convened for SUFPA's sake. SUFPA also embarked, with the assistance of the Utah Rural Development Council, on a multi-faceted business outreach and associated marketing campaign to potential co-op members. This campaign also included a concerted program of new product development, placement and marketing for SUFPA members. At the start of the new century, SUFPA relocated its Resource Center and reopened the office alongside its first retail outlet on the Main Street of Torrey, the gateway to Capitol Reef National Park.

SUFPA was a cooperative, community forestry experiment without equal in the entire country, not just the Four Corners region, and was gaining recognition as a model for a practical, grassroots approach to responsible, community-based forest management. Its future was promising as coffers were full, with operating and program funds readily flowing towards the positive progress of the cooperative. Stewardship work and wood supply was being planned on nearby federal and state lands, with the cooperative structure allowing for creative solutions that plagued each business individually. And with the retail store and resource center in operation on the busiest street in Wayne County, membership was strong, growing and active. SUFPA was on the verge of meeting all of its original goals and objectives while positioning itself for even greater accomplishments of cooperatively owned equipment, stewardship contract management and branches of the retail store. All of this was being contemplated within the framework of a long-term strategic plan that would replace grant funding with internally generated capital, exactly how a formal cooperative should be operated.

This promise and potential was not realized, though, as three years hence SUFPA is in the midst of finalizing its organizational and legal dissolution. Identifying and understanding potential reasons for this situation can provide valuable lessons for other community forestry partnerships. Certainly it was a combination of factors that led to the current circumstance, but a rapid turnover in both staff and then the co-op's board of directors led to:

- Disagreement between staff and board, and among the board, in organizational and management direction, including vision, mission, goals and programming.
- Diminishing and ineffective communication between staff and board, and among the board.
- A lack of adherence to governing documents, such as statement of purpose, mission statement and bylaws.
- A lack of knowledge and skills for cooperative, business and, ultimately, non-profit management (SUFPA ultimately changed its legal incorporation and business structure from a cooperative to non-profit status).
- A lack of internal fiscal knowledge, oversight and responsibility
- Shifts in programming and related projects, and the use of funds for projects not otherwise approved.
- Inadequate reporting to funders and other corporate governing entities.
- Diminished participation and oversight by fiscal agents and funders.
- Growing unwillingness on the part of staff and board to accept external input and direction from partners and others.
- Dwindling participation from association members.

Undoubtedly, these are all pitfalls that could confront any organization. But in the case of SUFPA, and potentially other forestry partnerships, the possibility for occurrence and the resulting effects were magnified as those in positions of authority were often more inclined for work in the forests, as opposed to the boardroom. Moreover, in a rural area such as Wayne County staffing needs were also difficult to meet, particularly for a complex cooperative business model. The necessary knowledge, skills and abilities were not easily come by and staff and board turnover removed some of the organizational capacity SUFPA developed early on. These inherent challenges, therefore, suggest more attention to the hazards listed above and greater diligence to avoid them would be required.

This steady organizational attention is also the case for a community organization's partners and team of resource providers. As these various support agencies, which FCSFP has actively encouraged to be more involved, are often more accustomed to the paperwork and bureaucracy intrinsic to organizational development and maintenance it is their proper role to offer this administrative oversight and assistance. Particularly when public funds are involved, this guidance should be provided and relationship preserved even when it may seem burdensome or the community recipient is unreceptive. This support is their appropriate professional role and often obligation—as in the case of fiscal agents—and neglecting this responsibility is unacceptable.

A great deal can be learned from SUFPA: from its many early struggles and successes, to its groundbreaking cooperative structure and programming, as well as from its untimely conclusion and the factors that led to this end. These varied experiences and associated lessons can provide constructive guidance for existing and future partnerships and associations. Community forestry throughout the region will only grow if there is a continually informed effort to emulate and implement the many shared accomplishments and successes while striving to avoid the pitfalls and trials that can plague any organization.

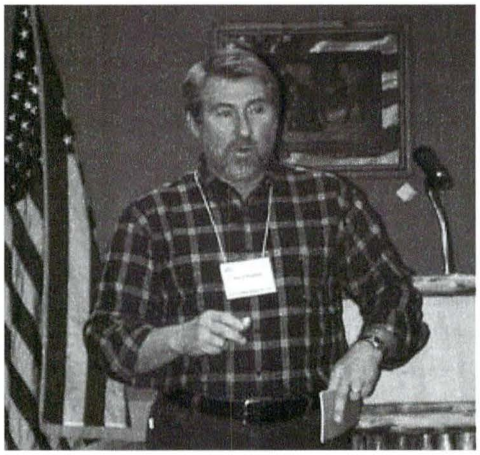
Collaboration

> While direct benefits may sometimes be hard to identify or describe, there is always some growth resulting from associating with others in a similar pursuit. I personally believe that learning about others with the intention of collaboration is far better than finding weaknesses in order to compete."
>
> *(Gordon West, Gila WoodNet, Silver City, NM)*

> I believe collaboration is really working out the details together and jointly sharing responsibility.
>
> *(Brain Cottam, former coordinator Greater Flagstaff Forest Partnership, March, 2004)*

The process of collaboration is one of the more challenging aspects of community-based or restoration forestry. While everyone believes collaboration is essential to ultimate success in maintaining partnerships and building a stewardship program, it is based on a number of capacities that are sometimes in short supply. Those capacities are openness, trust, relationship building, and an attitude of cooperation. Maintaining these capacities requires attitudes and skills that have often been diminished by years of conflict, continued project delays, last minute appeals, and growing impatience with the looming crisis in the woods.

Collaboration is continuous. It can't be accomplished in a moment and then forgotten. Collaboration is about on-going learning, understanding different perspectives, finding enough common ground to keep the partnership moving forward. Consistent dialogue and working side by side appears to build relationships among folks that pay worthwhile dividends. But one or two bad experiences can cause people to come to the opposite conclusion.



Steve Yaddoff, US Forest Service, updating participants on congressional budget process during the 2003 annual meeting.

Case in Point

Each community and FCSFP participants demonstrate their own particular expressions of collaboration. In Silver City, members of the Jobs and Biodiversity Coalition are bringing their diverse values and backgrounds together to achieve the commonly shared goal of a demonstration harvest at the Millsite on the Gila National Forest near Silver City. The five-member coalition has gradually moved towards implementing restoration harvest prescriptions on 800 acres of the 1,200-acre area during the past three to four years. They say the manner in which they have built a trusting relationship with each other has made on-the-ground progress possible. The real requirement for success, say Gordon West and Gerry Engel, is the "local" collaboration, which they describe as a "creative and flexible business relationship." However, that collaboration is made stronger by the involvement of partners beyond the local area. The role of the Forest Service's hierarchy of command is crucial in the ability of their community forestry effort to advance. While the district ranger, Gerry Engel, is the Forest Service's main community contact, the forest supervisor and regional forester, who are less involved, need to be involved in a regular, steady manner to ensure success.

(left-right) Brian Cottam, John Hinz, Rqy Wrobley and Tim Reader

Willingness and understanding are evidence of the capacity to collaborate and progress. Developing new relationships is a measurable category that should be considered in assessing the ability of organizations to grow and succeed.

Communication & Networking

Demonstration grant recipients often cited communication as the most important element necessary for their ultimate success, even while they followed up saying that it was perhaps one of the most elusive to develop into an effective, consistent action over the long-term. This difficulty is due to a number of reasons, including: the cost of attending meetings; the distances needed to travel and the time needed to take out from the daily responsibilities; distances community forestry efforts are from each other; or the tendency of many people to not use the Internet for email communication.

Partnership members welcomed any opportunities to network with other grantees, business owners, and steering committee members in situations where they could learn about new ideas, new products, and new or existing resources. Many partners expressed a crucial need to receive practical information in a timely manner, especially information that could be quickly applied to their business development. They also sought a variety of communication tools and methods to get their messages out about who they were and what products and services they offered. However, it became obvious that few grantees had expertise in communication and marketing, or were not even aware of the sophistication that is possible in communicating a message. In light of this, while the FCSFP's original intent was to enhance

Lesson Learned

The nature and structure of community-forestry partnerships are very diverse. How they are organized is often a reflection of the immediate community situation and history. What matters most is that they present the authentic values of the community about forest resources and stewardship.

Lesson Learned

Long-standing social relationships, which facilitate cooperative action, are one of the truest measures of collaboration. In this sense collaboration continually builds community capacity for future problem solving, not matter what the nature of the issue or concern to be resolved.

Lesson Learned

We cannot expect that community partnerships based on collaboration among diverse community members, organizations, and interests will always be successful. Reasonable and clear expectations about the outcomes of collaboration are a necessary part of the process, and these expectations need to continually be clarified and nurtured, both internally and externally.

When Collaborative Processes are Exhausted by Delays: *A Case Study*

By Brian Cottam

Thousand Lake Mountain looms high above Wayne County in south-central Utah. At over 11,000 feet, the flat-topped mountain, covered by dense spruce/fir and mixed conifer/aspen forests, provides commanding views of Capitol Reef National Park to the east and Boulder Mountain and the string of rural communities running through the county to the south. The forests of Thousand Lake Mountain have also been a stable and consistent provider of logs for the many small sawmills that historically dotted the valley below, since Mormon pioneers settled the remote country in the mid-1800s.

In the late 1990s, in the midst of diminishing wood supply and resulting family sawmill closures throughout Wayne County, Fishlake National Forest Supervisor Rob Mrowka recognized an opportunity to turn the tide. The Thousand Lake Community Forestry Initiative began as a community-wide effort to both stem the looming threat of spruce beetle infestation—whose devastating effects are apparent throughout southern Utah forests—and provide wood products to the remaining small sawmills immediately adjacent to the high plateau. The Environmental Assessment, itself, explains that, "A secondary objective is to provide forest products to resource dependent industries in an economically feasible manner; especially to sustain local community based forest enterprises."

Participants in the multi-year, in-depth collaborative planning included the Southern Utah Forest Products Association (SUFPA), other regional wood products interests, multiple environmental groups from along the Wasatch Front, as well as local entities such as Utah State University Extension, Panoramaland RC&D, Farm Bureau, and many others. This diverse group undertook a collaborative forest planning process as yet unseen in southern Utah.

The EA for the project was released in May, 2001, over three years since the Initiative began cooperative planning. Many questioned the efficacy of spending so much time and effort on a project that addressed a mere 220 acres; and this would be implemented in multiple phases, as agreed upon by Initiative participants, in order to monitor and assess forestry operations and potential impacts. Indeed, there were questions as to whether the project could actually be implemented as designed due to the numerous operational restrictions the group agreed to, all in a good-faith effort to end the management stalemate plaguing the Fishlake NF. Throughout the planning, the core participants--Supervisor Mrowka and members of SUFPA--were undeterred by the criticisms. They shared a realization that this was a small stepping-stone of trust building by all involved, which would ultimately lead to a new paradigm of long-term stewardship by local residents as well as a reliable wood supply for the remaining mills.

After years of often grueling sharing, learning, concessions and all the other elements of collaboration, inevitable turnover began to occur with key participants. Supervisor Mrowka, possibly because of his penchant for community engagement and often unorthodox, though trailblazing, collaborative methods in the Intermountain Region, was reassigned and eventually left the agency. This change was profound as there had been constant grumbling within the Supervisor's and Loa District offices about the time and resources being spent on this new cooperative planning process. It was apparent that the language of "collaboration" was not yet spoken within the Intermountain Region. The initiative's non-agency facilitators also changed at this time, creating a gap in the continuity of the planning. While this change was not profound, it did highlight the need for effective and knowledgeable facilitation for this and future collaborative efforts.

Unfortunately, the tumult did not stop there. SUFPA's staff also experienced transition at this time, leaving the local timber interests—those for which the project was initially conceived and had been designed for all along—without effective representation and adequate participation in the time-consuming planning process. Consequently, the agency and project was suddenly left without its principal partner for implementation. Finally, as the unraveling continued, the representative from the most involved environmental interest left for another position in the northwest. Undoubtedly, this left an immense void in the collaborative process. The value of this representation was magnified when other conservation interests interpreted this absence as theirs to fill; unfortunately, with far less interest in cooperation, collaboration, and community development.

The Thousand Lake Community Forestry Initiative was appealed by one of these organizations, the Utah Environmental Congress (UEC), in August 2001, immediately following the Decision Notice to proceed with the project. Appeal issues include roadless and management indicator species. As was the case with the Monroe Mountain Ecosystem Restoration Project (see MMERP sidebar), the District Court found in favor of the Forest Service, though it took until March 2003 for the hearing to occur. This decision, however, was immediately appealed to the 10th Circuit Court of Appeals and the project is still awaiting a hearing date.

Even with multiple years of cooperative planning, with active participation by environmental organizations—on a pilot project whose initial treatment unit in the preferred alternative is a scant 36 acres of demonstration to showcase the stringent operational design features—the project is now nearly three-years beyond the initial appeal. The Thousand Lake Community Forestry Initiative is seemingly a mere afterthought for the couple of remaining Wayne County sawmills, though Fishlake National Forest staff are even now in the process of marking sale boundaries as there has not been a judicial stay of the project. There is no pressure on the appeals court to hear the case as the majority of original participants have moved on and for the Forest there is little expressed enthusiasm for reinvigorating and pursuing the initiative. If a decision in favor of the Forest Service is eventually delivered the question remains if support can again be garnered for renewed collaboration and actual implementation of the project.

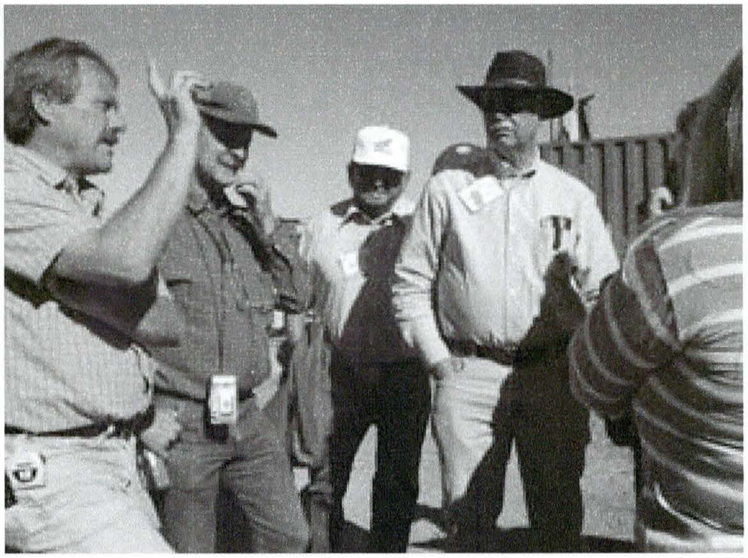
education about community forestry and develop technical transfers for grantees, efforts began to overlap into providing assistance in marketing and other forms of communication and networking.

Much of the communication and networking effort of the FCSFP was brainstorming or idea searching, which shows the emergent or experimental nature of not only the FCSFP, but of the overall community forestry effort in the Four Corners states. However, the development of a communication infrastructure will undoubtedly continue as community forestry partners seek to network and inform each other and the public, and gradually acquire a clearer vision of which tools and methods work best for them.

Some thought was given to providing information through the Internet, or create an infrastructure for circulating a regular printed or email newsletter. However, few partners are inclined to communicate by email, and a newsletter is more useful for reporting on past performance and less as a real-time tool for informing and enhancing current efforts. In addition, the costs for a website, which was utilized some, and writing and printing a newsletter call for continuous funding streams.

As it turned out, many attributes (see the Demonstration Grants section) encompassed a communicative feature that helped to enhance activities. For example, technical transfers were a natural extension of the technical assistance aspects of the partnership. Creation of brochures also augmented marketing activities, whereby a consultant was hired to assist and train small business owners in marketing their forest products and services more effectively.

Annual meetings, sponsored by a steering committee state coordinator, continued the legacy begun by the Taos Roundtable



Steven Steed and visitors to Skyline Forest Products in Escalante, Utah on one of the many field tours sponsored by the FCSFP.

Case in Point: Information Exchange

At least two kinds of communication are relevant to the FCSFP: information sharing among participants and improving community awareness, understanding, and acceptance of community-based forest restoration. Few FCSFP-funded projects developed or implemented information-exchange strategies to improve public awareness. Most projects of the FCSFP are too small to have a structured informational component among their activities. But communication of their activities is still essential to their prosperity. What they have to say, how they say it, and who hears it are crucial to the project. It may be as simple as talking to neighbors, or as involved as testifying to Congress, which George Ramirez, Director of Las Humanas, has done. Sherry Barrow in New Mexico says she talks to her Congressman's legislative staff regularly. The Greater Flagstaff Forests Partnership has a formal strategy to increase public understanding of its activities and goals. Members of the FCSFP Steering Committee communicate by e-mail. The Catron County Citizen's Group published The Citizen, which, until funding ran out, reported on forest- and healthcare-related developments in that New Mexico county. Colorado Timber Industry Association focuses its efforts on media messages that help to balance out other messages that they believe portray restoration forestry as a reincarnation of traditional timber logging. Grant recipients have always welcomed periodic phone calls from interested observers, because they value sharing information when opportunities arise. Perhaps the FCSFP itself is in the best position to adopt a future role of facilitating information dissemination relevant to restoration forestry and community development. Information exchange, particularly its annual workshop, is already a key activity it has participated in and on which it has received positive criticism.

and served to bring members of community forestry efforts in the Four Corners to meet and listen to each others' stories. The FCSFP meetings were complemented by gatherings hosted by other organizations, such as the Greater Flagstaff Forests Partnership, or the Ecological Restoration Institute, in which issues addressed overlapped those associated with the FCSFP. Some FCSFP member attended, in a few cases presented at them.

Communication tools and methods listed

- Annual meeting of demonstration grant program participants
- Website (http://www.fourcornersforests.org)
- On-site technical assistance on utilization
- Technical transfers/seminars
- Product development seminars
- Evaluation and assessment reports (2002, 2003)
- Media contacts campaign (press kits; issue promotion; article submissions; content analysis of coverage of topics related to community forestry efforts and the FCSFP, such as forest restoration and wildfire mitigation treatments)
- Marketing assistance
- State coordinator program contacts with grantees
- Grantee-grantee networking and other partnership building activities
- Occasional newsletter

Accountability and Public Support

One of the core principles of community forestry is social accountability. Inherently, communities that are most affected by the management of surrounding forest should be considered when restoration or stewardship projects are being proposed. Each community or county area has a set of values and visions about the physical landscapes adjacent to them, many of which could be tied to its long-standing cultural or economic traditions and ways of life.

Maintaining or ensuring social accountability to the people and a community's inherent values is one of the primary responsibilities of a local partnership organization. Obviously, in some measure this responsibility tiers upward to state, and regional partnership that conduct activities in community settings.

Implementing this responsibility takes many forms. It can start with open and inclusive communications about any proposed community forestry activity, bringing in those parties that might have an interest in planning, designing or

Lesson Learned

It is important that community forestry partnerships develop their own methods of communication with their partners, constituent interests, and funders. To neglect this activity is to run the risk of not building necessary internal membership and external public support for the partnership's goals.

Lesson Learned

Collaborative partnerships cannot be sustained without fairly consistent, on-going communication. Communication strengthens needed social relationships, and insures the transfer of critical knowledge that creates opportunities and skills for future, mutually beneficial actions.

Lesson Learned

Public support for forest restoration or fuel reduction in the wildland-urban interface is an extremely valuable asset. The best ecological or economic plans for forest stewardship can fail in the face of public opposition, as a result of mistrust or misinformation about even the best of intentions.

implementing it. Often it means planning and conducting a project that fits the capacity of the community's economy, its work force, and desires for growth and expansion. Creating an industrial expansion beyond the desires of a community could create a backlash against the stewardship effort.

Similarly, community partnerships need to build understanding and trust about the ecological improvements being considered. As a key bridge between the community, the forest, and the public land managers, the partnership or sponsoring organizations can create awareness of the need for actions to improve forest health, reduce fire risk, and strengthen local stewardship capacity. On occasion, this awareness and support can be established by starting with a relatively small demonstration project, taking anyone who is interested on a field trip to the site, making regular reports to the city council or county commission, and non-profit natural resource groups.

The primary issues or concerns of accountability may vary from community to community. It could be that the main topic has to do with cultural heritage, traditions, and the sacredness of the land (see the accounts below of La Humanas). It could be that there needs to be special attention to inclusion of small businesses that have been left out of previous forestry work due to agency bidding practices that favored large corporations. Or it could be that homeowners and community and fire district officials need to be brought into wildfire prevention planning, targeting and prioritizing high risk areas, and educating neighborhoods about how to work together. These latter activities are also interrelated with the previous discussion of collaborative processes, which build trust and lasting relationships and communal or social capacity for stewardship.

Strategically, ensuring accountability to meanings and understandings of the culture and society around the forest will pay long-term dividends in community support, credibility, and sustainability of the proposed stewardship process. Another key way that accountability is ensured is through a commitment to monitoring and evaluation, which is taken up in greater detail in the following section.

Multi-Party Monitoring

While informal monitoring occurs naturally from many perspectives on a continuous basis, formal monitoring is difficult to implement. It takes time and resources to organize, and for many practitioners and business operators, it seems like a detour from the main objectives. There are always what seem like innumerable technical questions about what to monitor and how to choose the criteria. Such questions become exceedingly complex when discussed between scientists, ecologists, and ordinary folks within traditional forest communities. As a result there are built-in avoidances to pursuing multi-party monitoring.

The following is excerpted from *Multiparty Monitoring and Assessment Guidelines for Community Based Forest Restoration in Southwestern Ponderosa Pine Forests* (DRAFT prepared by Ann Moote, February 04, 2003, p. 3).

Why monitor forest restoration projects?

> Resource management often follows an "adaptive management" approach, which is designed to allow frequent review and feedback on progress toward project goals while the project is being implemented (Figure 1). This feedback allows project managers to take corrective action when faced with changing ecological, economic, or social conditions. Feedback is particularly important to ecosystem restoration projects to help forest managers, scientists, and practitioners can learn more about how restoration treatments change the forest and modify the treatments to better meet project goals.
>
> Effective monitoring is an essential element of adaptive management, because it provides a reliable feedback on the effects of project actions. Monitoring involves the repeated measurement of variables over time to determine if actions have caused changes or trends – either expected or unexpected. As opposed to casual observation, monitoring is designed to help us identify what changes are occurring in the system and whether or not these changes are due to our actions.

Why multiparty monitoring?

A multiparty process is one that involves a heterogeneous group of individuals from community-based groups; local, regional, and national interest groups; and public agencies in an effort to be responsive to diverse interests and objectives. In many ways, multi-party monitoring reflects a national trend toward broader participation in environmental policy and management, especially on public lands.

A diverse group of interests is more likely to develop a comprehensive list of issues to be monitored. Engaging diverse parties in the multiparty monitoring process can also help avoid duplication of efforts and unnecessary competitions among interests, may promote greater efficiencies, and could help build beneficial relationships among those involved.

The underlying premise of multiparty monitoring is that potentially conflicting stakeholder views are more likely to be resolved when each party is given the opportunity to independently identify what needs to be monitored, and when these concerns are integrated into a jointly developed monitoring program (Kusel et al., 2000, Bliss et al., 2001). Bringing diverse parties into the process early on, therefore, can help a group avoid potential conflicts later on.

One should keep in mind however, that this process approach is not just a way to promote "buy-in" or reduce conflict. Rather, multiparty monitoring should be used to:

- Identify the right questions to ask;
- Assess how well a project is meeting desired outcomes and responding to diverse concerns; and
- Identify how management can be adapted to improve results.

The multiparty approach is designed to promote a mutual learning, as participants work together to better understand project efforts and impacts. Participants can expect to gain a greater understanding of ecological health, the local community's economic and social well-being, and the interconnections between the environment, the economy, and social conditions. They will also learn more about others' perspectives on the project and its potential outcomes.

Here are three distinct statements from the Greater Flagstaff Forests Partnership website that are helpful as goals for monitoring the ecological, economic, and social aspects.

Ecological Research and Monitoring

Research and monitoring are critical components of the Partnership's restoration efforts. Through them, we will expand our scientific knowledge of ecosystem processes, and how those processes are altered by particular management decisions. Research into methods for reducing the risk of catastrophic fire and the impacts on ecological processes will also be a critical component of the Partnership's research efforts. The information gathered through research and monitoring will guide the Partnership when it designs future restoration projects. A few examples of potential research questions include:

- How can restoration efforts be evaluated and improved? Specific experiments will be designed to test alternative restoration treatments, providing guidance for future project design and implementation.
- What are the impacts of different fuel reduction strategies on wildlife habitat? Restoring dense forests to a more open structure similar to what existed prior to Euro-American settlement will most likely reduce fire risk. However, the impacts associated with such a restoration on wildlife habitat needs to be better understood along with a more precise understanding of how species composition will change.
- What fuel treatment strategies are appropriate for the Urban Wildland Interface? To better understand how to reduce the possibility of catastrophic fires in the lands surrounding Flagstaff, alternative fuel reduction strategies should be devised, implemented and evaluated.

Economic Research and Monitoring

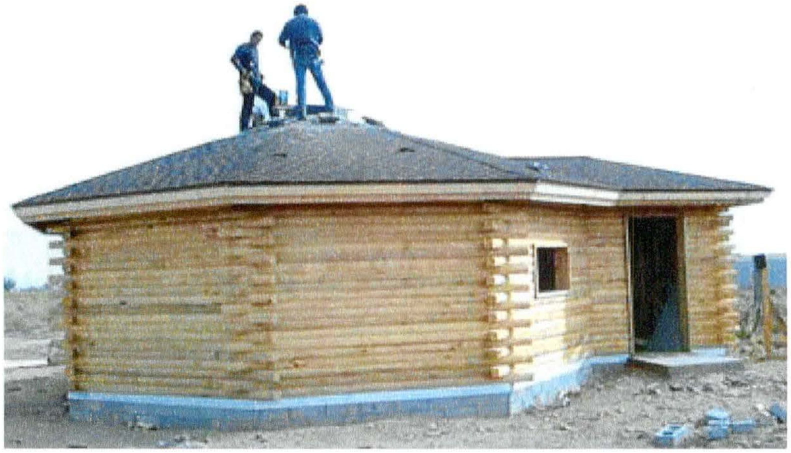
Restoration is labor-intensive and expensive, and it is unlikely that the Federal government will provide the funding necessary to restore the health of millions of acres in the West. To develop a better understanding of the economic issues associated with restoration, the Partnership will evaluate economic issues associated with each project it undertakes. Possible economic research questions include:

- Is it possible to fund restoration projects through the removal and sale of forest products from the restoration area? Restoring the ecological health of the region's forests will be an expensive undertaking. Land managers, business representatives, and conservationists need a better understanding of the economics associated with restoration.
- Given ecological, economical, and social constraints, what is the estimated amount and type of forest products that can reasonably be expected to be removed from the region's forests in the future? Establishing sustainable forestry-based businesses will require a predictable flow of raw materials from the region's forests. The type and cost of products, available volumes, and fluctuations in availability are examples of issues that need to be examined.
- What are the potential uses of small diameter trees and how can the market for them be improved? Large numbers of small diameter trees, which have low economic value, will be removed during restoration activities. Developing a market for them and increasing their value is critical if they are to help provide funding for future restoration efforts.

Social Research and Monitoring

If the Partnership is to succeed, it must be supported by a broad cross section of the community. Understanding the interests, values and needs, of the community will help the Partnership to design and implement restoration projects that restore vital ecosystem processes, while allowing the continued use and enjoyment of the Urban Wildland Interface by local residents. Some questions that need to be answered include:

- What tree density and forest structure is acceptable to the community? Science tells us that prior to Euro-American settlement, the region's ponderosa pine forests were much more open and park like, with clumps of individual trees and scattered stands of higher density. However, people are used to the high density of present-day forests and may find the removal of large numbers of trees objectionable. Land managers and ecologists need a better understanding of the range of visually acceptable changes in the Interface forests.
- What are public perceptions of air quality issues related to restoration? One of the key ecological processes that the Partnership hopes to reintroduce is frequent, low-intensity fire, which will impact air quality. We need a better understanding of people's willingness to accept air quality impacts as part of restoration, as well as on-going baseline research on air quality impacts from prescribed burning and wildfire.
- Is the Partnership achieving its goals and meeting the expectations of area residents? The success of the non-profit and partnership approach needs to be evaluated, and the factors leading to success or failure need to be determined.



A hogan constructed of small diameter timber by Indigenous Community Enterprises in Cameron, Arizona and marketed to traditional Dineh as affordable traditional housing.

Cultural & Tribal Heritage

> "The value of the FCSFP is that it created a coordinating group that earned the respect of the regional forester, and kept in touch with the tribes, businesses, and communities. . . . A new tribal relationship has developed over the last few years."
> *(John Waconda, FCSFP-BIA Tribal Coordinator)*

The FCSFP helped to create a sense that tribes ought to be partners in community forestry. In turn, relationships with state and federal land agencies improved. In the past, conflicts over land and water rights have typically dominated state and tribal relationships. By introducing the possibilities of cooperation with tribes with regard to sustainable forestry the aura of past conflicts were reduced. The interests of multiple parties in cooperating in the natural resources are an open door to improved tribal, state and federal government relations.

In the past, cultural preservation and modern economic development have been viewed as more or less incompatible. However, lately, due to the impacts of FCSFP and other similar supporting programs, economic development and tribal and Hispanic cultural preservation appear to have found new common ground through the practice of community-based forestry. From this perspective, community forestry has become a means for integrating traditional commitments to healthy and sacred landscapes with current needs for appropriate employment opportunities and sustainable ecologically centered careers.

One important impact of the FCSFP and other programs

Lesson Learned

The primary impact of the FCSFP and other programs is the empowerment of the tribe to actively manage traditional tribal lands. The secondary impact is the availability of forest products that help to improve the quality of life of tribal communities; firewood, furniture, lumber, etc.

Lesson Learned

Employing community-based forest restoration to aid in sustaining historical, cultural relationships with the land is a new interaction between tribes and the USDA Forest Service and Bureau of Indian Affairs. Working in the woods is a traditional, cultural practice. It is an organic part of living. Progress is possible because community forest activities are renewing ties to the land. A vision towards these new connections is strong among tribal and Hispanic members of the FCSFP.

(e.g., Community Forest Restoration Program in New Mexico) is the empowerment of the tribe to actively manage traditional tribal lands. Another is the availability of forest products that help to improve the quality of life of tribal communities, such as firewood, furniture, lumber, etc. Also, tribal members are receiving greater opportunities to interact more closely with traditional tribal lands and receive federal support to do so, particularly through demonstration grants, technical assistance, workshops and general networking opportunities, all of which help to build internal capacity to more actively manage tribal lands. Additionally, the forest management program that is being built is creating educational and on-the-job training opportunities for tribal members, including such stewardship activities as: tree planting, fire suppression, forest rehabilitation, and operate machinery to conduct restoration harvesting and chipping.

A new level of skill for tribal members involved in the enterprises has been reported, such as the sawmills at Zuni and Jemez and on thinning crews. A next step at Zuni is to provide educational training to more full-time employees for the sawmill, furniture factory, and other enterprises. The tribes are more able to develop products, operate mills, work with biomass, and manufacture furniture. They are able to tap into a large, available labor pool; especially now with emphasis on fuels treatment, which has been a major focus at Jemez for a number of years.

"Workers have become sources of knowledge to which the BIA and other government agencies can turn to develop management plans. More appropriate and applicable information can be shared in the planning stages of on-the-ground projects that help to ensure that projects are founded on sound management rationales" (John Waconda, BIA).

Looking at current tribal needs, tribes involved in community forestry lack business-manager expertise to negotiate contracts, to know government contracting protocols, to be familiar with small-business development issues, and with financing a program, or project. This lack is surmountable, given adequate time and support to integrate the tribes' traditional interests and values in community forestry with appropriate business and entrepreneurship training and experience.

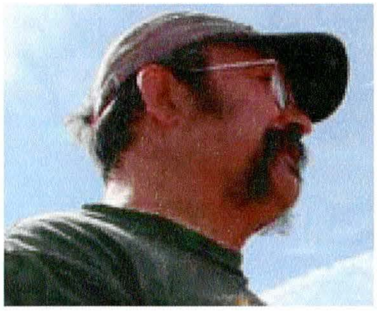
More focus in improving methods of communication and implementation of the planning phases and the contracting phases of projects is needed. Better communication should lead to better planning and contracting. Once these challenges are improved, the implementation phase is assured. More attention can be focused on young people by creating more opportunities for them to get education and job opportunities at tribal enterprises. Right now, the awareness that such opportunities exist is growing.

A Case in Point: Jemez Pueblo Walatowa Woodlands Initiative

The Cerro Grande fire of 1999 changed the urgency for restoration issues in New Mexico. The Walatowa Woodlands Initiative (WWI) program at the Jemez Pueblo, now in year six, employs a "socio-anthropological" perspective of forestry. The program's main objectives have been: 1) to protect and restore the forest resource and symbiotic relationships; 2) to protect sacred sites and places where medicinal plants are gathered and where religious societies have their areas; and, 3) to create employment for traditional tribal members.

The program was already operating when the Cerro Grande Fire struck. The religious leaders of Jemez Pueblo, which is a very traditional non-gaming tribe, issued a directive to create economic development from the land-based industries of agriculture, ranching, and forestry, all of which focus on renewable resources. The attempt was to take the existing management and roll it into a tribal enterprise. It was not intended to make a profit, just cover the cost of doing business.

An enterprise approach differs considerably from the traditional tribal program, which is set up for meeting federal standards for managing federal funds and tribal programs, such as elderly and healthcare programs. A business enterprise is more flexible and responsive to the financial needs of a business. For example, when a truck radiator hose breaks it may take a day to replace through the operation of an enterprise. It may take seven to 10 days through a traditional tribal program, while costs continue to be incurred while the equipment is broken down.



Case in Point:

Las Humanas

As CEO of Las Humanas Cooperative, located in Manzano, New Mexico, southeast of Albuquerque, George Ramirez is busily involved with innumerable aspects of the Manzano Land Grant, a 7,000-acre area communally owned since the 16th-century Spanish settlement. Manzano is one of five land grants adjacent to each other and running north and south along the flanks of the Manzano Mountains, almost exactly at the geographical center of the state. Ramirez oversees developing a non-profit forest restoration and fuel reduction services business. For about six years, he has seen the challenges that most community forestry efforts in the Four Corners have experienced; usually with fewer resources. Right now, Las Humanas workers are getting steady work. Three years ago, he employed eight forest workers; now 16 work regularly.

Ramirez reports progress on Las Humanas' three major goals: improving watershed water quality and quantity; operating a forest restoration and fuels reduction service in partnership with the Forest Service and the State of New Mexico; and creating educational field opportunities for local teens to get involved in caring for the forests.

"The only resource we have is an unhealthy land. It's reached the bottom, but we're helping to turn it around."

The goal of involving more members of the community has been a gradual success, but the demand for jobs is greater than broad community interest in forest restoration principles. However, this is evolving as a few high school and elementary aged kids are showing interest in Ramirez's work.

Commercial competition has increased as well. Three years ago, Las Humanas was the only fire mitigation or community-based thinning organization in operation; now there are eight, Ramirez reports. The price per acre for providing fuel-reduction services has dropped drastically, due primarily to the presence of a Florida-based business that works cheaper and is "mobile."

To offset this situation, Ramirez, as are other FCSFP project partners, encourages the Forest Service to allow the local community first choice on public land projects in order to assist in community and economic development. He advocates the concept of "best value," whereby the local community is given preference on jobs in the interest of supporting community economic development and sustaining local traditional ways of interacting with the forests of the area. Ramirez said this approach is similar to giving veterans preference when hiring for government jobs. The best value-bidding criterion does not mean, "playing favorites," he said.

Asked where the greatest capacity is to advance, George Ramirez said continue "moving trees and keeping people working." The next step to build capacity is to develop a variety of products, not just one, or two, such as vigas. The market is limited for vigas and prices drop when supply exceeds demand. Las Humanas is interested in developing a cabinet-making shop that specializes in Spanish/New Mexican style furniture that utilizes restoration materials. This would be linked to a traditional-cultural activity, he said. He stressed the need to identify the demand before making a product and not try to create a product that will create a market.

Lesson Learned

Sometimes it takes a charismatic leader to make things possible and cultivate local interest and support in building new relationships with others in the interest of renewing cultural ties.

Lesson Learned

Tribal and traditional ethnic communities epitomize the fundamental nature of the community-forestry movement by stressing that forest management should fit the values of a place-based society. Yet, the challenge that remains among these communities is the construction of appropriate economic enterprises based in viable business principles that have been adapted to indigenous values and traditions.

The small revenue stream that FCSFP funding was part of is not enough to maintain a program so continued funding is needed.

"The [tribal forestry enterprises] may never be self-sustaining, in fact," one tribal contact said. They will continue to need assistance due simply to their remoteness from major markets. These constraints hinder large-scale market development. In addition, much of the work is labor intensive, so progress happens slowly. At the same time, tribal enterprises are reluctant to mechanize. Two main reasons are cited for this: the labor pool is so large (out-of-work laborers); and, mechanization could occur at a scale inappropriate for tribal values, perspectives, and principles of adaptation.

The latter point, "principles of adaptation," refers to a significant parameter that characterizes a tribal perspective of community forestry; particularly to the strong spiritual, cultural, and traditional beliefs that exist in tribal cultures. The significance of nature in the lives of human beings is a paramount concern in their approach to community forestry. They deliberately and consciously base their interaction with forests on the premise that they need to be cared for so that they provide for the community.

As one interviewee said: "Without this, the people would not exist. In modern terms, you can think of it as forest management. It's a symbiotic relationship. This is the underlying principle that guides all tribal decisions to actively manage, or conserve and protect forest resources. Once that understanding is maintained it guides the development, or "non-development," of enterprises. The forest resources don't belong to any single individual. They belong to the whole tribe. It's everybody's responsibility to care for those resources and whatever is maintained belongs to the whole community. Everybody is the benefactor of goods and services. The forest and products are looked upon as for the common good. This is challenging in a business sense, because of the profit motive to maximize gains. The social good sometimes doesn't support those [market] principles" (John Waconda, BIA).

If these cultural linkages don't occur, the appropriate level [scale] of operation may be more difficult to achieve. A high-capacity, large-volume sawmill may not be supported by enterprise managers, and council and tribal members for whom a large degree of harvesting would not be biologically and socially acceptable. "Self-restraint is self-sustaining. You should not expect to get rich at expense of the whole."

THEME II: Economic Components

> "A forest products enterprise in Arizona can be very expensive to operate. Energy costs versus production output highlights part of the challenge. Retooling existing industry to use a greater volume of small diameter material and incorporating biomass residuals for myriad other applications, has promise for creating sustainment, but not before significant money is plunged into the effort. Consider, for example, one of the three remaining sawmills in northern Arizona, Reidhead Brothers Lumber Mill in Nutrioso, a community embedded in the Apache-Sitgreaves National Forest with a rich logging tradition but struggling to find a niche in the battle to restore the health and vitality of Arizona's forests. Once capable of milling 7 to 8 million board feet (mmbf) of lumber per year, this mill's production has fallen to about 2 mmbf. Their products include 3x4, 4x4, 6x6 and 4x6 dimensional lumber cut to 8 and 16-foot lengths. Most of the milled lumber is used in making pallets, assembled at plants in Phoenix or El Paso. A small amount of milled material is used in creating tongue-in-groove flooring for log homes. The 18 employees currently mill logs 9 inches and larger with aged equipment. Material less than 9 inches is peeled for poles and posts, and waste residue is sold as mulch or boiler fuel. Significant funding is necessary for this mill to modernize and incorporate every use of the material generated from their operations. Perhaps one operator put it best when he stated, 'We are trying to pin the solution to forest health on the backs of the poorest people in the region'
>
> *(Little Colorado River Plateau Resource, Conservation and Development Area, Inc. August 2003. Arizona Industries of the Future Forestry Action Plan. Prepared for the Arizona Department of Commerce. Holbrook, AZ: LCRP RC&D).*

The second area of implementation capacity is the economy. A new economy built around stewardship principles is needed to undertake the difficult work of stewardship of many acres of unhealthy forests. As already noted, this new restoration-based forest products process is highly adapted from the old commodity timber industry of the past. While it can at times integrate with some of the more traditional commodity-oriented wood products, such as timber, beams, oriented strand board, and pulpwood, its success depends on a whole host of new products and services. This contemporary wood products economy has the character of a cutting edge, innovative, technology in the modern business world. Product development and design, marketing, innovative and revenue enhancing practices are critical elements of the new economy of stewardship, as much shaped by forest restoration services as by universal commodities.

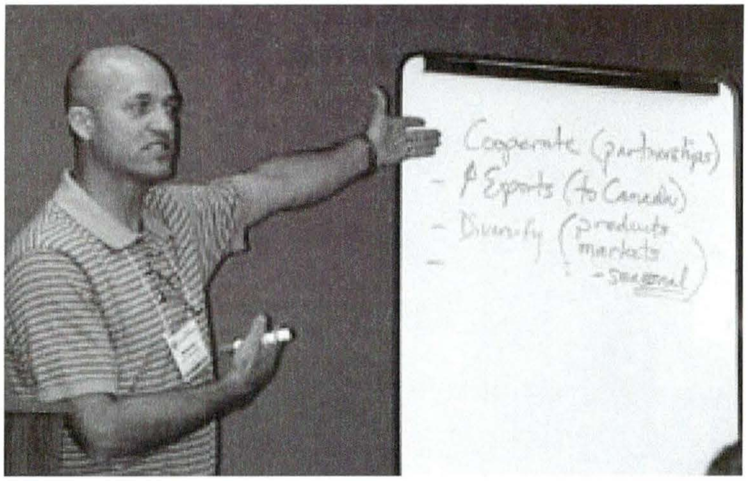
If these adaptive, economic elements are not developed and cannot become viable, then the future of community-based stewardship looks bleak. Why? Because there is a general expectation that much of the work needs to be paid for through "market" functions. While in the short term there are public resources to rebuild a stewardship economy, and some "subsidies" are available through the National Fire Plan and possibly through the new Health Forest Restoration Act, the long-term success of forest renewal depends on producing marketable products and services from low value raw materials. At times, this sounds like the proverbial tale of "making a silk purse from a sow's ear." While this is true to a degree, through innovation and entrepreneurship, some successes are beginning to occur.

Case in Point

Sherry Barrow Strategies, Inc. (SBS) is the manufacturing component of the RWUI and a FCSFP grantee. When Glen and Sherry Barrow got involved in the effort and received funding through the FCSFP and other public and private sources to build a manufacturing plant, other things became possible in the integration of utilization components from harvesting onward. Essentially, SBS provided the answer of what to do with the small-diameter timber once it was harvested. They built a plant that manufactures animal bedding shavings from freshly harvested small diameter. Another piece of the puzzle was filled in as SBS provided a market and created demand for raw materials.

Also adding a crucial element is Sierra Contracting, Inc. a composting and mulching business, located in Ruidoso Downs, just across the street from the famed Ruidoso Downs Racetrack. Owner Van Patton takes the materials that SBS can't use, as well as slash hauled off of private property within the Ruidoso Village limits (as part of a fire-risk reduction ordinance) and makes compost. He then sells it through a contract with the New Mexico Department of Transportation for highway mulching projects. Sierra also gives some back to the community, whereby residents get their own slash back in the form of soil enriching compost.

With diligence and perseverance, the overall effort has continued to evolve since about 1999. As of 2004, more components have been filled in, such as more regular participation of a logger. SBS reported that they are having difficulty keeping up with the demand from consumers due to the popularity of their product. They cite lack of regular, steady and large enough supply as the hold up.



Derek Snow, Southern Utah University Economic Development Council, sharing tips with small business owners during the FCSFP 2003 annual workshop.

Small Business Orientation

> "We [the FCSFP] elevated the issues. We focused on helping the business community, and nobody else was doing that."
>
> *(Carla Harper, OCS Interview, February 17, 2004)*

One of the largest questions facing the community forestry movement is how to structure and scale wood products businesses to operate efficiently in the new field of forest restoration. Many believe that local, small-scale, and often, family owned businesses are part of the answer. Indeed, small business has always played a significant role in the regional context of forest restoration. A few medium-scale manufacturing operations make up part of the industry, such as Forest Energies in Show Low, Arizona, which makes fire-stove pellets for commercial and residential sales. However, the regional industry is largely defined by individuals and families continually trying to find a niche and figure out what product they can make and sell with the raw materials that are available.

In addition to the small-business niche focus, another significant issue raised was to what degree could small business actually handle the amount of raw materials that needed to be disposed of from forests in the region. From the beginning, biomass utilization was considered a possible avenue for disposing of vast volumes of thinned materials. But it also has presented difficult challenges that are still in the process of being confronted. One that persists is the difficulty of getting access to large enough volumes of timber to make investment desirable to industry.

Efforts to develop both avenues continue; but whatever scale is achieved in terms of disposing of low-quality timber in the name of ecological restoration, small business will surely be found at the center of that development.

Entrepreneurship in Community Forestry: Critical for Success

> "It's like fishing. You try different lures, maybe poles, then . . . fall in and a fish swims in your pocket. You just gotta be out there!"
> *(Gordon West, Gila WoodNet, Silver City, NM).*

When it looked like the Four Corners saw-timber industry was disappearing, many FCSFP members began to express that entrepreneurship held the energy to recreate a new forest-based industry. The FCSFP took on a character of an entrepreneurship support organization. Many believed, and still believe, that you can't have community based forest restoration without entrepreneurship. It is the essence of "hands-on."

The importance of supporting entrepreneurship for rebuilding capacity is "an absolute must," said Kim Kostelnik. "A spark in an individual or group that wants to get something accomplished. Gravitate towards a 'doer.' They have an ability to express problems, issues, barriers that affect what the agency might do."

Entrepreneurship is characterized by the commitment of local people who are creative, willing to take risks, and are adaptable. Entrepreneurship is the one thing many FCSFP partners have in common. They brought their inventive minds and a variety of skills into the network: an engineer, long-time loggers who learned what they know by experience, craftspeople, furniture builders, construction contractors to name a few. They saw an opportunity in the ecological needs of forests to develop business opportunities; particularly in the development of new products and tools (new technology) to harvest and process small diameter.

A Small Business Perspective

". . . we have lost virtually the entire forest and wood products infrastructure in our area. We need to rebuild an infrastructure—a skilled workforce and business enterprises—if the critical work of restoring healthy forest ecosystems is to be accomplished. We also need to create innovative, value-added enterprises to use the byproducts of this restoration work . . . . From what we have seen, the greatest opportunity to start building this infrastructure is with small entrepreneurial companies like ours looking for a market niche. Small companies might not accomplish large, landscape objectives quickly, but we can build capacity, begin doing the important work, and start building trust and lessons . . . . Colorado and other states with forest health issues need businesses like ours to serve as a management tool and to provide jobs, a tax base, and products. We are small but we are also a real part of our community. If we go out of business our area has not only lost good jobs, but also the land manager has lost an important tool.

". . . in typical restoration projects, we have to cut and handle a lot of low quality trees. We also try to cut a few good ones in order to do well in our local markets and make the economics work. There is still a lot of uncertainty and risk for small enterprises like ours trying to make any profit while conducting restoration work.

"We do not expect a guaranteed supply. However, the Forest Service must be a consistent, predictable supplier of material. Our business planning depends on being able to predict where our supply of wood will come from each year, and we need accurate reliable information from the Rio Grande and San Juan national forests. . . . We are not asking for industrial forestry, we want restoration work."

(Cassandra Doyon, Rocky Mt. Timber Products/Doyon Logging, 2/4/04, to House Resource Committee, Subcomm. on Forests/Forest Health).

Case in Point: Multi-products and multi-markets—An integrated economic development strategy

Ten to 20 years ago, along the Mogollon Rim in east-central Arizona, a timber and wood products industry thrived. In Eagar, a Stone Corp. timber mill employed more than 100 people, and the pulp mill at Snowflake purchased significant amounts of chips. This kept many people working in the woods and in processing raw materials. Today, the sawmill at Eagar is closed, and the pulp mill uses only recycled paper.

From the public lands perspective, including the White Mountain Apache Homelands and the Apache-Sitgreaves (A/S) National Forest, what do you do with thousands of acres of overstocked stands of ponderosa pine, many of which face an unnatural stand-replacement fire? (Recall that one of the largest fires in the West, the Rodeo-Chediski, occurred there and on the White Mountain Apache Reservation in June 2002.) If you were Jim Andersen, former RCA Coordinator for the A-S NF, you think "plaid." "Plaid" was Jim's way of saying multi-products and multi-markets. Plaid is one way of overcoming community and forest dependence on one product, one source of revenue and jobs, one means of utilizing resources that need to be removed from a stagnant ecosystem.

Under the general auspices of the Arizona Sustainable Forests Partnership, coordinated through the Little Colorado Resource and Conservation District based in Holbrook, Arizona, several businesses and community organizations are working in concert to address a problem that is larger than any single agency, organization, or business can solve alone. Walker Bros., a multi-generational logging company located in Eagar, has returned 18 jobs to the region after becoming equipped to mechanically thin high volumes of small diameter material. About half of the material in the form of clean chips is transported to Forest Energy Corp. in Show Low to manufacture stove pellets. At the old Stone sawmill, efforts are underway to bring a biomass steam turbine on-line, which will produce

[continued on next page . . .]

RUSTIC STYLE FURNITURE

Rustic Style Furniture in Dolores, Colorado received a demonstration grant to improve marketing. They utilize aspen mainly, little small-diameter pine; but serve as a model example of a small business effectively practicing stewardship principles.

Marketing

> FCSFP has been building capacity directly in marketing and utilization, and indirectly in forest restoration. It's an indirect link. We in the Four Corner's did not go out . . . generally, we did not go out and fund restoration. But we indirectly encouraged and supported progress and implementation of forest restoration by creating some markets for the products that come from those treatments. And by, I think, contributing to the evolution of public perception. You know, by getting those small businesses in there with community support, so that people were more supportive of cutting trees and restoring the forest.
>
> *(Al Hendricks, Arizona Department of Fire and Aviation Management, April 28, 2004)*

Even though small business is considered the foundation of community-based forestry, small individual businesses struggle to get an economic foothold. A couple of years into the FCSFP development, it was thought that marketing could help; however, many rural community people lacked the resources, skills, and funding to include marketing in their whole effort. So the FCSFP steering committee contracted with a consultant to assist businesses in developing brand identification. The degree to which this was accomplished was mostly remedial and introductory, but still welcomed as another tool available to grantees who could benefit. As a capacity-building method, marketing continues to be considered important overall, although secondary to product and service development and business retention.

This integrated planning has lead over the past several years to a higher level of economic and community capacity with a specific regional area. Thus, when the Apache-Sitgreaves National Forest was ready to enter into a long-term stewardship contract, business relationship, trust, and social equity had been built that enabled a consortium of individual businesses to bid on and win the contract. (see previous discussion of stewardship contracting.)

Utilization

> If we want to do the work in the woods, the restoration or fuel reduction, whatever you want to call it, or whatever it is; it can't get done unless you have the people to both do it and do something with the raw material. ...You can sit hear and talk about restoration until you are blue in the face, but nothing will happen if we don't figure out a way to use this stuff. ...Otherwise it is just flapping our gums and then we are doing a disservice to everyone...Because then we are just talking and wasting time. We have to figure out how to use it.
>
> *(Brian Cottam, former coordinator*
> *Greater Flagstaff Forest Partnership*
> *March, 2004)*

The whole of community-based forest restoration is dependent on the utilization of small-diameter timber. Unless the American public is going to subsidize forest restoration, ways must be found to successfully move and dispose of timber in an efficient, low-impact manner, develop products, and find markets to buy them.

The utilization story is one in which many FCSFP demonstration grant recipients were actually part of a larger, local context. In each case, the grantee contributed a crucial component to overall efforts, which make the whole thing possible. Conversely, the individual entrepreneurship/small business couldn't make it without a community-wide involvement of other components. The Ruidoso Wildland-Urban Interface Working Group (RWUI) is one example of such integrated cooperation that stems from stump to consumer and has worked rather well.

electricity and be linked to the grid.

Outside of Springerville, just north of Eagar, Imperial Laminators is producing a laminated highway guardrail that has passed U.S. Department of Transportation standards for safety and resiliency. It could utilize significant volumes of two-by-six lumber. Imperial Laminators is also developing a number of laminated beam products for use in post and beam construction.

Just northwest of Show Low, Neil Brewer, another multi-generational wood worker, is producing a wide range of products from peeled poles, to a panelized log home system, to house beams and landscaping mulch. The Town of Eagar has taken over the old Precision lumber mill, and is developing an industrial park oriented especially to wood processing. In the Pinetop-Lakeside area near Show Low, three prescriptions have been implemented on the Blue Ridge Demonstration Project. Ed Collins, the District Ranger on that portion of the A/S NF, and Steve Campbell, with County Extension, have been working with private landowners in the area to establish collaborative relationships with multiple interests through the Natural Resources Working Group to improve forest health and reduce fire risk

No one has struck it rich yet. It is not yet clear that all the visions and ideas are going to work out exactly as planned, but for the first time in a while there is hope. It is starting to look like the capacity of small wood processing businesses can mature enough to utilize the thousands of acres of fire prone lands surrounding the rapidly urbanizing communities on the Mogollon Rim.

More and more people are thinking "plaid," and finding new ways to share the forest stewardship problem, build a diversified market, and take better care of the lands and their communities. A healthy optimism is being created by the many partners, and being rallied by Herb Hopper through the Little Colorado RC&D. The group, working through the Arizona Sustainable Forest Partnership, seems to be achieving success through teamwork, multiple solutions, strong community leadership, innovation, and collaborative entrepreneurship by taking a strategic approach to economic sustainability and forest restoration.

Product Development

The focus on product development by FCSFP partners has leveraged considerable integration of several attributes of community-based forestry, such as: technical assistance, utilization, restoration, marketing assistance, entrepreneurship, business start-ups, information exchange, deciding whether to expand existing products or develop new ones, and getting clear on connections to existing markets as well as to new markets. The list goes on, showing how product development has been, and continues to be, central to activities of community-based forestry.

Product development also has depended upon integrating networks of people and resources, locally and regionally, even nationally. Many factors have created a mine field of challenges: the infrastructure, the lack of high-valued raw materials that could produce high-demand products, the lack of skilled woods workers, the lack of confidence in reinvestment, etc.

Developing products from a small- to a large scale have characterized this attribute of FCSFP grantees and community-based forestry. On the small end of the scale, furniture making is common across the region. On the large end, biomass has been at the forefront of interests. One reason why is that there is a belief that biomass can provide material to more than one market, thus creating demand to move larger volumes of material from overgrown and at-risk forests.

While biomass is considered to offer a means for disposing of poor quality timber on a large scale, a number of interviewees warn of caveats. It is not a cure all, they say, and warn against a jump-on-the-bandwagon mentality, which they believe has caused problems in the past. At some point, it became obvious that the timber industry was in such a depressed state that if large volumes of timber material were available to it, the industry could not dispose of it fast enough. The principles of ecological restoration may be compromised if too large of a scale of harvesting took place, some claim.

Probably some of the best examples of product development are where utilization and product manufacturing came together in profitable ways. SBS, Inc. is commonly referred to in New Mexico for doing a good job of this. Arizona projects, such as Indigenous Community Enterprises and Neil Brewer Associates, have been successful as well at utilizing increasing volumes of timber, bolstered by the incentive that the large fires of 2002 provided.

Case in Point

The results of supporting product development were mixed according to some. "So much goes into product development," said Tim Reader, Colorado State Forest Service. "Four Corners realized that it's too hard to develop new products when the industry was failing." Early on, the focus turned towards trying to retain the existing industry and adding value to traditional products, such as dip-diffusion treatment of posts and poles.

Buying equipment helped in the manufacturing of products, but it also had mixed results. While the jury is still out on the effects of equipment purchases, industry people have stressed that they need equipment. Small-business development consultants were saying equipment purchasing should be the last concern.

The FCSFP-related operators have come in a spectrum of approaches to this issue. For example, StonerTop Lumber in Dolores, Colorado bought a tub grinder ("Rotochopper") to chip small-diameter timber into shavings for playgrounds, but they have not been able to develop playground-safe chips. They did not conduct the marketing surveys before buying the grinder (Dunmire, Carolyn. Undated. StonerTop Lumber and the Rotochopper: Turning Waste Wood into Value-added Products, a marketing report). The animal bed shavings manufacturing business, SBS, Inc. in the Ruidoso, New Mexico area, took a more systematic approach to their innovation in partnership interaction and new product development, manufacturing and marketing. They did the extensive research before investing in equipment.

Mill Conversions

> "The wood products industry in the western United States lacks the ability to carry out large-scale restoration projects. The infrastructure to process small-diameter and underutilized trees generally does not exist, or is economically infeasible given low product values. In many regions, the lack of a consistent material supply from public lands hinders contractors' ability to invest in the necessary equipment."
>
> *(Cassandra Doyon 2/04/04).*

Are mills key, or just part of the long chain of adaptations that will be needed?

"Refitting mills to handle small diameter is the coming thing across the West," according to Ray Wrobley, SEC, Sedona, Arizona. "But the trend appears to be intermittent, depending on the region and on the interest of people there." In the Pacific Northwest, which is considered the place for big diameter trees, many mills won't take a log smaller than 22 inches on the large end. There might still be specialty mills, but only a few. In Colorado, some think it takes too much to convert a large timber sawmill into a small diameter utilization mill.

"You might as well start from scratch," said Wrobley. "Everyone is retooling to small diameter. There still is motivation to invest."

The problem in order to compete is mills have to be in high production, Wrobley said, which works in the Northwest and British Columbia, where huge volumes per acre are common. In contrast, a small company in Montrose, Colorado, Intermountain, which can handle 100 million board feet a year, has to reach out across the country to stay in business.

Like mills, loggers are geared towards small logs now. At Vallecito Reservoir near Durango, the logger doing salvage after the 74,000-acre Missionary Ridge fire had to sell his big logs in the field, because they were too big for him to handle.

Aside from the cost and the demand to produce high volumes of products, some are saying that it makes sense to separate the small-diameter wood processing activity from the saw-timber mill activity. This is similar to "starting from scratch, but not only because of the cost. It just makes more utilization sense to some."

Nevertheless, mill conversion became an important focus of some FCSFP partners who saw a need and had a desire to fill it. In Reserve, NM, the Catron County Citizens Group utilized remnants of an old, defunct mill, along with a new saw, and rebuilt a much smaller mill on the same site in order to process restoration timber from upcoming logging out of the Sheep Basin Restoration Unit; a community and economic development process that has taken nearly 10 years.

The Doyons in Southfork, Colorado symbolize a notable milestone in the mill conversion story. Their background is in logging as contractors, but they were losing jobs as mills shut down. So they decided to take the risk and purchase and reassemble a La Sal, Utah mill and add milling to their logging portfolio. Their story is quite dramatic in that it shows a dedication to community-based forestry and to keeping their business, which is really their lifestyle, going. Cassandra Doyon even testified to a congressional subcommittee about the subject (Doyon 2003). Her statements touch on several themes crucial to community-based forestry: the need for restoration forestry and a supporting industry, bidding for restoration projects (and needed training), costs of projects versus US Forest Service selection criteria, USFS confusing and conflicting policies and rules, foreign competition, OSHA regulations and safety training, forest and wood products infrastructure, landscape-scale restoration harvesting, and rural community assistance (ibid.).

The significance of the rather recent focus on mill conversions has to do with the fact that so many, many mills have closed down over the last two to three decades, and suddenly new mills are popping up; in Catron, near Trinidad, Colorado and Raton, New Mexico and in Southfork, Colorado. Whether or not this focus is a sign of renewed vigor, or fresh indication of potential, is not so clear; however, it testifies to the entrepreneurial momentum that seems to exist and to the desire of people to recreate an industry in response to the need to treat forests and to the incentives to do so.

This German-made "Unimog" purchased by Gila WoodNet is an example of the smaller, more manueverable, and low-impact machinery being employed in small-diameter restoration logging.

Labor Force Development

> "When the wood flow gets started so that a guy can make a business, then we will get some jobs being created. It has been hard to bring people along over four years without having wood. Even then, the small diameter thinning business is the steepest entrepreneurial hill you can climb."
>
> *(Gordon West, Gila WoodNet, Silver City New Mexico)*

Regional differences are very important when it comes to the topic of workforce training and development. Whereas the Pacific Northwest needed to focus on immediate training for large numbers of out of work logging and timber workers, the economic situation in the Southwest in the late 1990 was quite different. While some large timber mills were still being closed in1998-99, much of the industry had been lost even earlier. The human, social, and economic impacts of the large scale changes in timber production, while still being felt, had been absorbed in significant measure by the 70's, 80's, and early 90's. The large scale wood industry, active in Flagstaff, Durango, Snowflake, Espanola, Eagar, and Reserve among communities, had already been largely down sized by the early to mid 1990's. What remained was few small and moderate size businesses, family owned sawmills and logging companies, and a few adaptive businesses that converted their mills to smaller diameter materials or adapted their production to include fuel treatment, house log kits, large-scale landscaping for ski-areas, among other wood related services.

What woods workers who remained had to figure out ways to create small niche businesses such as producing higher-value beams for western home construction, turning posts to replicate a traditional Hispanic style, or created a whole new product such as Aspen paneling. These businesses sustained employment for a core number of wood workers, while others left the region, turned to other careers, or retired. What remains is a small number of wood production workers who still struggle to sustain themselves. This is an aging population for the most part, whose knowledge and experience is extremely valuable to the future success of wood production in the Southwest.

As community forestry continues to grow in the areas of forest restoration, and new products from undervalued wood materials remains a needed objective, there will be a gap in available skilled workers. In Catron County for example, whereas the old Stone Mill in Reserve employed upwards of a hundred persons, today only a handful of skilled workers remain who have not invested themselves in other employment or careers. It is unclear where future workers can be drawn from as the Catron mill expands to 15-20 employees.

In the early stages of economic development through community forestry, the Southwestern or Four Corners Region can fill its initial work force needs through reaching out to local people and small businesses. However, steady and moderate growth in employment to just meet the needs of forest restoration will require a work force that does not presently exist. For many workers this is somewhat difficult to contemplate because their most recent experience has been mere economic survival. How strongly can they contemplate an economic future in wood production tied to restoration forestry?

Given this history and context, the development of a skilled workforce will become an increasingly important question. What new careers will merge from the conversion of mills to small diameter products? What changes will come from increased mechanization of logging and thinning operations. How can labor force needs be met in a highly diversified economic environment that could include traditional milling, new wood composites, furniture manufacturing, biomass energy, ecological monitoring, and many other outcomes that must be integrated into a holistic restoration process? Answers to these questions will come from highly entrepreneurial businesses, hands-on technical workshops and training initiatives, state labor development programs, and state forester support of technical assistance and educational programs.

Lesson Learned

Whether defined in terms of new products or markets, innovative technology or small business entrepreneurship, or any number of other adaptations in harvesting and milling, the ultimate sustainability of restoration forestry in the Southwest is highly dependent upon the evolving economic infrastructure, capacity and resilience of small and moderate size businesses. There is a clear need to establish a partnership with this entrepreneurial sector.

New Technology

Most of the entrepreneurial activity associated with the FCSFP centered on product development and manufacturing, new harvesting and milling technologies, and the purchase of machinery to diversify harvesting and milling of products and services. Obviously, advanced technology is considered necessary to add value to products, operate in the woods more efficiently and to reduce restoration costs.

The goal of sustainability hinges heavily on the ability to develop new technology that is relevant and effective. Towards this goal the list is long of what FCSFP partners have been incorporating in their efforts. For example, the chain-flail chipper utilized by Walker Brothers in Arizona has been effective in removing large volumes of timber to transport to Forest Energies in Show Low. Gila WoodNet in Silver City, New Mexico fabricated a low-impact loader vehicle to conduct small-diameter timber harvesting more efficiently by eliminating the need for skidding. Randy Roper added a bandsaw to produce more marketable retail products at Lone Eagle Lumber Company near Grand Junction, Colorado. Ralph Barela pieced together a plant to manufacture fireplace logs out of chips from his successful viga business in Las Vegas, New Mexico. Phil Archuleta, with P & M Signs in Mountainair, NM, an oft-mentioned success story, persevered long enough to develop a wood and plastic composite that is now under a profitable contract to produce signage with the USDA Forest Service. Also in New Mexico, the Catron County Citizens Group has converted a sawtimber mill into a log sort yard and a processing plant for small diameter timber. SBS, Inc. in Glencoe, NM and Zuni Furniture Enterprise both are testing a prototype co-generation unit at their facilities in partnership with the US Department of Energy; two of only seven such experiments in the United States. Similarly, in Eagar, Arizona, Steve Hall refitted a defunct mill to generate electricity by burning small-diameter timber. Indigenous Enterprises in Cameron, Arizona bases its whole Hogan Project on the development of special fasteners used to build traditional Navajo homes out of small diameter timber. Richard and Cassandra Doyon, at great financial risk, dismantled a long-standing timber mill in La Sal, Utah and reassembled it in Southfork, Colorado with an aim to process small diameter timber they log from restoration projects. In Escalante, Utah, Skyline Forest Products, with financial assistance from a host of providers, including the FCSFP, bought and has been testing a portable micro-mill that processes small diameter.

Development of new technologies has always been an area ripe for innovation in the FCSFP network, in which technical expertise from both within and from outside of the locality has played a significant role.

This has been made up of a combination of local expertise and inventiveness of the partners and technical assistance providers, such as the US Forest Products Lab in Madison, Wisconsin to develop and test some of these technologies. For example, Gordon West at Gila WoodNet in Silver City, New Mexico has been working with a Lab expert to design and strength test wood/plastic composite. P & M Signs did the same thing. Tim Reader with the Colorado Wood Marketing and Utilization Center has also utilized the Forest Products Lab for similar testing. Underlying this interaction is the constant search to find a product that can be mass produced for a large market, such as the home and commercial construction industry and the energy and heating sectors of the economy.

THEME III: Ecology

> "It is time for the majority to take back control of the nation's resources and demand that scientific knowledge be applied to managing forests for the qualities Americans value. Our forest ecosystems are complex, but it is obvious to me that our current legal/social situation is even more complex. I can, however, see that the power to make decisions has been taken from the majority (voters) and put in the hands of a few. The laws under which we work have, I believe, inadvertently placed the most power over what is done (or not done) on public lands in the hands of a few who oppose active management. Those who have grabbed control are using the courts and various laws, particularly the Endangered Species Act, as tools to advance their agendas. There seems to be little connection between scientific knowledge of forest ecosystems and many of the decisions being made through the courts today."
>
> *(Marlin Johnson, Combining Social and Ecological Needs on Forest Lands in the United States: A Global Perspective: Much of this paper was originally presented as The Role of Wood Removals in Sustainable Forest Management in the United States: The Contribution of Federal Lands. The authors were Marlin Johnson, Dr. Hal Salwasser, and Barry Bollenbacher, IUFRO Conference in Malaysia, August 2000.)*

> "Just as there is a broad range of eco-system conditions within the dynamics of a given ecosystem, ((you can be anywhere from a pioneer successional stage to a seral stage in the same ecosystem, and they are all valid stages) likewise you can go into sivilculture and you can say we could leave it at this density, or this density, or this density, or this density! And there are trade-offs."
>
> *(Al Hendricks, Arizona Department of Fire and Aviation Management, April 28, 2004)*

Research on restoration ecology has contributed significantly to FCSFP activities; whether directly or indirectly by FCSFP partners or others involved in community restoration. However, as the excerpted material here shows, the process of forest restoration is fraught with difficulties. Despite the determination of those who value its potential, they are faced with many challenges to realize their vision and their goals.

There is not one simple prescription that will work for the majority of ecosystems in the Southwest. It depends on what the particular stand of trees looks like, how it is composed, what the restoration goals are, and often times what competing values for a given forest are at the discussion table. Even though one might think that the science of ecology might give us a clear scientific answer about forest restoration, it is rational after all, the current state of understanding and the complexity of perspectives, do not allow this to happen. As Al Hendricks said, "Restoration is a $500.00 word."

Fire regimes, stand structures, silvicultural prescription development, ecological monitoring, and documentation are important components of the science and practice of restoration forestry. To be effective, scientific observation and learning must rely on sharing of information and new knowledge, from the researcher to the forest-thinning operator, to stakeholders and general public in a timely manner. Restoration forestry is characterized by two major activities: developing, applying, testing prescriptions and harvesting methods; and scientific monitoring that ultimately guides restoration and building of an infrastructure for economic revitalization, allowing both to adapt to new information (Johnson 1996).

The following (Frederici 2003) summarizes issues of the ecology of forest restoration and the understandings of those in the research, support, and implementation of restoration harvests.

"Forest restoration focuses on returning low-level fire to its core role, and on protecting the oldest trees and promoting the growth and development of new generations of old trees. It also must consider other native plant species besides pine trees; it must consider restoration of native wildlife composition and densities; it must consider nutrient cycling and hydrology; it must address concerns about invasive species. For it to succeed at meaningful landscape scales it must also be linked to work such as the removal of roads and the restoration of springs, wet meadows, and open, grassy park- lands, most of which are severely degraded throughout the Southwest. Finally, if it is to become a lasting part of the social landscape, restoration must benefit and sustain human communities.

Given this complexity, it is no wonder that there has been and will continue to be a tension between those who focus on the dangers from large-scale fire and hence advocate for large-scale restoration, implemented swiftly, and those who would take a slower approach. The brakes on restoration are many. If restoration presents all the promise of a broad, interdisciplinary endeavor that uses a wide range of human capabilities, it is also - for many of the same reasons - fraught with difficulty. Residents often oppose prescribed burns. Some environmentalists, concerned about potential profiteering by a reestablished wood products industry, oppose commercial thinning treatments. Land managers face bureaucratic inertia, red tape, and litigation that can delay projects for years - sometimes for so long that conditions change sufficiently so that the entire inventory, project planning, and environmental review process becomes outdated and must be begun again, causing a lack of follow-through to implementation that stifles the creativity and flexibility needed to conduct restoration. Congress continues to appropriate far more funding for fire suppression than for restoration treatments that will ultimately (but often not immediately) reduce suppression costs. Many rural communities and workers lack the capital, equipment, and skills needed to carry out the needed work. Markets for the small-diameter timber removed from thinned forests often do not exist, necessitating public funding for thinning" (ix-xx). . . ."Ecological restoration has as its goals the preservation of biodiversity, the health and maintenance of sustainable ecosystems, and the development of mutually beneficial relationships between humans and nature. In some instances, though, it is perceived as a specialized endeavor that remains primarily of interest to its practitioners - something yet to be fully understood by society's mainstream. In southwestern ponderosa pine forests, restoration is more than this. Ecological restoration of these forests is intimately tied to human well-being, and is of concern to wide segments of society. Many southwestern forests that are ecologically unhealthy are also uncommonly prone to dangerous, high-intensity fires. Restoration has the potential to simultaneously return ecological integrity and reduce the risk of such fires" (3).

A Utilization and Restoration Connection

> "FCSFP was not about physically pursuing treatment on the ground, restoring a forest with individual projects. It was about helping to restore a forest by developing the industrial infrastructure, community based economic infrastructure, to make it possible and sustainable. It's a very important part. Because as the FC Partnership has developed rural economies, businesses, to enhance utilization, that in turn has improved the opportunity to accomplish forest restoration. Long way to go. But that's the direction we have been moving in."
>
> *Al Hendricks, Arizona Department of Fire and Aviation Management, April 28, 2004*

Strictly from an evaluation perspective, it is clear that on-the-ground restoration has not occurred at rates that many had hoped for when the FCSFP process began. However, this should not be considered failure. Rather, the number of acres that have been treated, which have increased during the years, are merely a measure of current progress, a register of the current reality among several other measures of broader progress.

Note that in relation to this description of progress, many FCSFP grants were made to businesses that were not directly involved in on-the-ground restoration projects. Increasingly, funding was made to support business development, and increasing capacity to utilize timber and produce various products. For example, FCSFP funding support purchases of a resaw, a chain flail chipper, parts for a fire log manufacturing plant, and many other equipment purchases. All of this, it can be said with some confidence, has helped to build capacity to conduct forest restoration.

Many projects are associated in some way with restoration-related goals, but it is worth asking the question why the FCSFP was not more directly involved with specific restorations. Two explanations emerge. One, only a small number of actual restoration projects have gotten underway during the past few years. Networking the right people and accessing public lands are two of the challenges to achieving progress in this realm.

Second, obstacles make efforts to conduct restoration very costly and time consuming. It has made better sense to turn energies towards activities that are in better positions to be productive. This is what seems to have occurred in the case of the FCSFP and many of its grant recipients. Attention has shifted from on-the-ground restoration to what is determined achievable and constructive, that is building economic capacity for the future.

By 2004, more on-the-ground activity was occurring in comparison to the earlier years of the FCSFP, when interim, capacity-building, activities were emphasized. These included taking advantage of National Fire Plan dollars to conduct fuel reduction in wildland/urban interface lands, purchase equipment, and developing a more entrepreneurial approach to a commercial industry that provides fuel-reduction and defensible-space services on private land. As mentioned before, the work on private lands is providing benchmarks for observing the effects of thinning over time. This serves a research purpose that can help project realistic outcomes on public lands relevant to restoration harvesting.

To reiterate, capacity building is where the real story is. Grant recipients of FCSFP funding are part of a Four Corners wide multi-level effort to build a new economic and physical infrastructure that is positioned to utilize small-diameter pine and other wood products of restoration thinning work.

What is occurring is a continual building of knowledge that in the long-term could be viewed as contributing to more actual restoration. For example, the number of silvicultural prescriptions being developed for specific values and localities and being tested has increased over time. The kinds of landscapes in which they are being tried out are more numerous, too. Projects in Arizona and New Mexico particularly are demonstrating and monitoring prescriptions. These include the Blue Ridge Demonstration Project near Show Low and the Millsite project near Silver City. Individuals in Colorado are hoping to develop opportunities to conduct demonstrations that utilize restoration prescriptions appropriate for the location.

Infrastructure development is taking place, both physically and economically, in planning for eventual access to forests to do restoration harvests. This is being led by entrepreneurial-minded business people in the region, many of whom are FCSFP partners. Developments in infrastructure and relationship building suggest that capacity for conducting efficient and effective utilization and on-the-ground restoration is stronger.

Optimism endures, judging from the persistence of the entrepreneurial efforts to develop new products, new low-impact harvesting equipment, new manufacturing machinery, and new strategies for community awareness and support. These reflect a capacity-building momentum based on the expectation that access to public forests for raw timber will ultimately materialize. The merging of the contexts of ecology, economy,

Case in Point: Communication and Adaptive Management

Communication and education are needed all across the board at both the project and the programmatic levels. This is the second big challenge of the Jobs and Biodiversity Coalition, Gordon West believes.

The coalition actually advocates creating a timber program that utilizes small diameter and saw timber entirely separately. West says the Forest Service and anyone involved in CBF should treat big trees and small diameter trees as different things, not lump them together.

"A small-diameter processing facility will look very different from a lumber mill," West said. "The trick is to get the highest value for the least amount of processing."

For example, the small diameter facility will process small trees, rough sawn lumber and architectural details. West is experimenting with developing a house kit that utilizes logs that retain some of their curve. He is selective, but processes the logs as little as possible in order to reduce the cost of handling.

and community will continually need to be addressed as people work to solve the challenges and evolve greater, common understandings.

Wildfire Mitigation

Sometime after the FCSFP organized, growing demand to conduct wildfire mitigation and the emergence of the National Fire Plan created opportunities for the FCSFP members to harvest small diameter timber in the wildland-urban interface of their communities. This was in direct response to the availability of federal funding, specifically the National Fire Plan, for fire planning and mitigation. Shifts in operations took place towards wildfire mitigation and fuels reduction. The scope of involvement ranged from small, as in Catron County, to large-scale operations, as in Flagstaff.

In some cases, taking advantage of NFP funding was done in lieu of doing forest restoration. It is important to note that not all in-woods work is actual forest restoration in which silvicultural prescriptions designed to address several issues, such as habitat and natural fire reintroduction. Rather, much is simpler fuels reduction to protect homes and property from catastrophic wildfire in the wildland-urban interface on private and public lands where they are adjacent to each other, which, of course, is common in the Four Corners. Prescriptions are involved in actual restoration, but common in fuels reduction projects. However, both, restoration and fuels reduction are deeply connected with community economic development, small business development, and the notion of stewardship. All of these should be considered in future development of community-based fuels reduction and forest restoration industries.

In 2003, the overlap of fuels reduction and true restoration gained a new level of attention through the creation of the Healthy Forests Restoration Act which created "incentive for communities to engage in comprehensive forest planning and prioritization" (Society of American Foresters, 2004, Preparing a Community Wildfire Protection Plan: A handbook for Wildland-Urban Interface Communities. Bethesda, Maryland: SAF). What may turn out to be a major creation of the HFRA is the incentives it offers the US Forest Service and the Bureau of Land Management to engage with local communities in prioritizing and implementing fuels reduction projects (ibid. p2).

Already, community wildfire plans developed in a number of communities have made significant differences in the amount of on-the-ground being achieved. Communities associated with the FCSFP to this effect include, Ruidoso, NM, Reserve, NM, Flagstaff, AZ, Show Low and Pinetop, AZ, and several communities in southwestern Colorado (see

"Zone of Agreement"

The "zone of agreement" is essential to the working relationship of participants in the Jobs and Biodiversity Coalition in Silver City, New Mexico. Meeting participants must adhere to this guiding principle of engagement. In the case of the restoration demonstration at the Millsite, parameters agreed upon within the zone of agreement include: only trees under 12 inches in diameter are harvested, no saw logs are taken, no economic drivers behind the prescription, only ecologically sensitive by-products are planned.

MAIN RD
WILDFIRE
EVACUATION
ROUTE
Protecting your Village Of Ruidoso

Office of Community Services. 2002. Five-county Community Wildfire Plans). Development of community wildfire plans has brought people together in ways only comparable to how an actual wildfire brings them together in common cause.

Wildfire Mitigation and Community Stewardship in Ruidoso, New Mexico

Availability of NFP funds created incentive to conduct wildfire mitigation in New Mexico where grassroots concerns over wildfire risks was already building organizational capacity that allowed people to take advantage of NFP funds when they did become available. Concern over wildfire danger was keen even before the New Mexico State Forestry Division listed the state's 20 most vulnerable interface communities, with Ruidoso at the top (the USDA Forest Service rated Ruidoso second in the US).

In Ruidoso, New Mexico, local collaboration to conduct wildfire mitigation over a broad area might be described as "integrative utilization," whereby each partner contributes some component—from stump to consumer—to the overall mechanism of community forestry. They are making deliberate efforts to put together the pieces of each needed activity to ensure an economic model of vertical integration serves their needs. The plan is composed of "harvesting, transportation, and milling" components. The approach reflects broader regional efforts to organize a multi-party/agency program to rebuild a community-based forest products economy that works to improve forest health, as well as provide wildfire protection. Towards this end, Ruidoso wears "two hats," says Village Forester, Rick DeIaco: one for the Ruidoso Community Fire Management Plan on private and municipal land within village limits; and the other is for the "Wildland-Urban Interface Working Group," a community-based partnership working on the "Eagle Creek Fuels Reduction Project" upstream in the town's watershed on Lincoln National Forest.

Local, county, state, and federal governments and agencies make up the WUI partnership. It has been funded by National Fire Plan dollars made available through the Western Wildland Urban Interface Grants Program. The goal has been to create a buffer on public and tribal land adjacent to the village, to lessen crown-fire potential, and force fires to the ground before they reach residential areas.

The in-village ordinance aims to trim "ladder" fuels that could carry flames into the forest canopy. Upstream in the village's watershed, more substantial wildfire mitigation and forest restoration is taking place through the Eagle Creek Fuels Reduction Project.

Similar activities occur on both projects: the village transports homeowners' green waste (grapple-hook trucks) to dumpsters provided by Sierra Contracting composters. On public land, another partner, Sherry Barrow Strategies, Inc., manufactures the green small-diameter timber into animal bed shavings. Like Sierra Contracting, SBS, Inc. is another entrepreneurial achievement integrating the economic model into a multi-party partnership effort that utilizes a variety of public and private funding.

"The service and outreach program has expanded far beyond what we expected," DeIaco

Case in Point:

The Jobs and Biodiversity Coalition

Adaptive management can be thought of in social terms, as well as ecological. In Silver City, the story is as much one of people adjusting how they interact as it is adapting forest restoration methods, guided by what they learn from the results of their activities.

The Jobs and Biodiversity Project, a Ford Foundation-funded project, has been at the core of efforts to develop a community-based forest restoration demonstration project at the Millsite on the Gila National Forest 25 miles northwest of Silver City, New Mexico, and integrate a number of components from stump to consumer in order to make it work sustainably.

The "coalition," as the project's members call themselves, work at what amounts to be an experiment in communication, partnership, and ecological forest restoration linked to local entrepreneurial development. The core members and organizations are: Todd Schulke—Southwest Center for Biological Diversity; Gordon West—Gila Wood Net and Santa Clara Woodworks; Gerry Engel—Silver City Ranger District of the USDA Forest Service; and Judy Ward—Silver City/Grant County Economic Development Council (SIGRED). The local representative of the Nature Conservancy is peripherally involved.

The coalition is the only entity actively pursuing community-based forestry in the Silver City/Grant County area. Adjacent Catron County has other efforts occurring distinct from Grant County.

Bringing the core members together was a stroke of "lucky coincidence of having the right people in the same place at the same time," said District Ranger Gerry Engel. They've developed a relationship among themselves that makes on-the-ground accomplishments possible. "People of different views can actually get something done on the ground!" he said.

"We agreed to leave professional egos at home," Engel said. "The collaboration is unique, but difficult to

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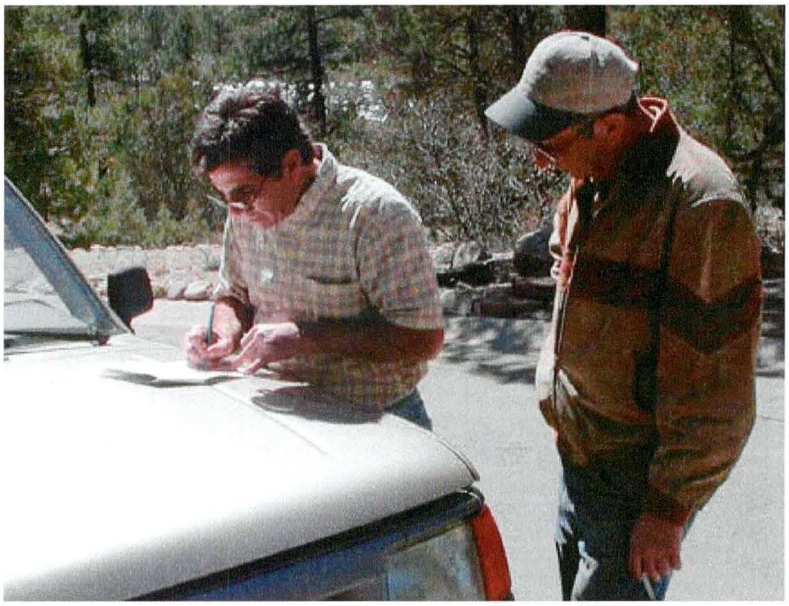

Ruidoso Village Forester Rick Delaco and a home building contractor going over plans for creating defensible space before new home construction begins.

said. "The first year we hauled 20,000 cubic yards away, last year it was 40,000, and this year we are expecting 60,000."

Adaptive Management

The hands-on nature of the FCSFP reflects the adaptive management aspects of community forestry. Through a process of learn-as-you-go, adaptive management entails learning form what does not work, as well as what does (Richard 1995). Because through adaptive management we are learning about what works, it is often associated with a monitoring program associated with initial ecological conditions, proposed actions to treat or restore the landscape or site, and an assessment to determine to what degree the expected results of the prescription have been achieved.

Adaptive management is in essence a decision-making process based on a sequential determination if you are achieving the desired management goals in the forest. To make an appropriate determination requires a description of the baseline conditions, clear delineation of the treatment options and actions, and an interdisciplinary approach to evaluating the actual outcomes. A multitude of potential desired outcomes, sometimes relating to water quality, wildlife habitat, soil conditions, insects, and wildfire behavior, among others, can often make the implementation of adaptive management fairly complex. This often creates some tension over the amount of scientific resources and time that can be devoted to assessment and monitoring, even though the fundamental need for adaptive management is well accepted.

The need for adaptive management is clearly a function of the current testing or demonstration phase of community forestry and the underlying goal of improving ecosystem conditions. Even though it is time consuming and requires substantial community and scientific resources, it is necessary to understand which of several thinning and restoration prescriptions are most reasonable within given ecological phases, stand structures, and dynamic conditions.

An example of how a variety of restoration treatments is being implemented, monitored and adaptively managed is occurring on lands around Flagstaff, Arizona through many stakeholders participating in the Greater Flagstaff Forest Partnership (GFFP). A series of key program elements and commitments from the GFFP website (www.gffp.org) presents a concise picture of the important interrelationships between forest restoration, science, monitoring, and adaptive management:

- *A Framework for Restoring Forest Ecosystems*: The Partnership uses a framework of comprehensive ecological restoration as our guide in developing proposed actions in the forests. Restoration treatments may include combinations of selective small-tree thinning, reintroduction of surface fire, access and recreation management activities, road obliteration, weed control, etc.

- *Strong Scientific Foundation*: Projects are designed based on a rigorous scientific understanding of the processes that shaped the natural ecosystem's structure and function. Actions are proposed to improve forest ecosystem health and sustainability based upon this understanding.

- *Restoration is Approached as an Experimental Field*: The Partnership recognizes that there is much that we don't know about restoring forest ecosystems. This uncertainty requires us to test a variety of approaches. We are currently testing and researching restoration prescriptions developed by Northern Arizona University's Ecological Restoration Institute, the USDA/USFS Rocky Mountain Research Station, and the Southwest Forest Alliance.

- *Extensive Research and Monitoring*: The Partnership is committed to researching and monitoring the key ecological, economic and social impacts and issues associated with landscape-scale restoration. The Partnership's first 10,000-acre landscape scale project at Fort Valley includes a $500,000 ecosystem research budget and over 20 ongoing studies.

- *Commitment to Adaptive Management*: Research and monitoring results are fed back into the Partnership to improve the design of future projects. The Partnership's scope covers a 100,000-acre

describe. We have gotten along, listened to each other's point of view and have the same goal to move forward. We all strongly feel we need to do something, to get something done."

Gordon West, who owns Santa Clara Woodworks and founded Gila WoodNet, said theirs is an approach distinct from other community-based forestry projects.

"We designed the project, and then looked for people to get involved. We didn't start a collaborative and then look for a project to work on together. We use a 'zone of agreement' design. We don't let outside arguments stop the project. Involvement and participation are based on the needs of the project."

The coalition operates according to the essential adaptive principle of harvesting in small increments, then integrating new knowledge in the next phase of harvesting to improve on past performance. Each participant contributes a particular vision, knowledge and expertise in carrying out all the aspects of utilization—from planning a prescription, to harvesting, transporting, milling/processing, marketing, administrating, communicating (internal/external), and monitoring.

Now, after a few years of organization, the coalition is geared up to launch a full-scale restoration project at the 1,200-acre Millsite, 800 from which timber will actually be harvested. The coalition has utilized 100 percent of timber moved off the initial 35 acres of the demonstration area, partners say. Another prescription has been written for 68 acres, to be harvested summer of 2004. They then hope to ultimately treat about 200-300 per year for the next few years.

West believes the coalition has a transferable model ready to be shared with others.

"I've come to the understanding that what we are trying to do here is create a new culture," West told me. "We've been doing third world forestry in New Mexico and the US. The stewardship idea of community-based forestry is part of that effort to get a culture."

> analysis area, in which a mosaic of restoration activities will be proposed over a 10-year period, moving in a step-wise, adaptive fashion. We estimate that ultimately 30-50% of the overall area will receive some type of restoration treatment.

While over the past five years within the FCSFP, the methodologies of adaptive management have been in a "start-up" mode, due in part to the limited scale and variety of many of the restoration projects, it is anticipated that increased investment in it will be made over time. The recently developed long-term stewardship contract on the Apache-Sitgreaves National Forest, the White Mountain Stewardship Project, should provide many opportunities for adaptive management applications.

Endnote

While these lessons learned and strategies for capacity building are being presented towards the completion of the FCSFP five-year demonstration period, 1999-2004, it is not anticipated that the benefits of this regional partnership will suddenly be concluded. The work of many communities, businesses, organizations, tribes, national forests, state forestry organizations, and individual leaders and partners will continue through a variety of community forestry projects and a wide variety of partnerships. The knowledge about the social, economic, and ecological processes of a new stewardship approach to forest health will continue to grow, and become an on-going and expanding legacy for future practitioners of community forestry.

In this context the overall conceptual framework that describes the FCSFP, along with its many operational components, are offered as a working perspective that will be enriched by further, experience, implementation, and reflection. It is therefore our hope that the concepts and stories presented here are a beginning platform upon which additional understanding, methods, and learning can be place, and further adapted as progress continues to be made in the Four Corners Region.

In an attempt to facilitate additional growth and dissemination of knowledge about the kinds of forest restoration and stewardship illustrated by the Four Corners Sustainable Forest Partnership over the past five years, the USFS Rocky Mountain Research Station-Flagstaff, with the assistance of the Office Of Community Services at Fort Lewis College, Durango, Colorado, will soon be establishing the *Southwest Community Forestry Caucus*. The Caucus will serve as a regional network for the primary purpose of collecting and sharing information about community forestry concepts, models, and projects.

This report will be highlighted on a new website for the *Southwest Community Forestry Caucus* located at Fort Lewis College (http://ocs.fortlewis.edu), where the intent will be to create greater accessibility to knowledge, examples, and conversation about best practices in the growing field of community forestry and stewardship of natural resources.

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